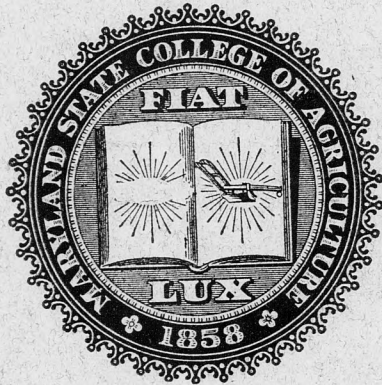


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COLLEGE PARK, MD.

FOURTH ANNUAL REPORT

Maryland State College of Agriculture EXTENSION SERVICE



FOR THE
YEAR ENDING JUNE 30, 1918

MARYLAND STATE COLLEGE OF AGRICULTURE AND U. S. DEPARTMENT
OF AGRICULTURE COOPERATING

Maryland State College of Agriculture

EXTENSION SERVICE

BOARD OF TRUSTEES

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A. F. WOODS, President of College
 T. B. SYMONS, Director.

F. B. BOMBERGER, Assistant Director and Specialist.
 T. E. McLAUGHLIN, District Agent and Specialist in Animal Industry.
 G. E. WOLCOTT, Specialist in Dairying.
 S. B. SHAW, Specialist in Horticulture.
 E. N. CORY, Specialist in Entomology.
 S. S. BUCKLEY, Specialist in Animal Husbandry.
 C. E. TEMPLE, Specialist in Pathology.
 W. R. BALLARD, Specialist in Gardening.
 F. W. OLDENBURG, Specialist in Agronomy.
 H. W. RICKEY, Specialist in Poultry Husbandry.
 F. A. WIRT, Specialist in Farm Machinery.
 R. F. McHENRY, State Boys' Club Agent.
 E. F. FOX, Emergency Boys' Club Agent.
 D. J. HOWARD, Emergency Boys' Club Agent.
 H. W. FRISTOE, Emergency Boys' Club Agent.
 S. E. DAY, Emergency Boys' Club Agent.
 C. L. OPPERMAN, Agricultural Editor.
 E. C. AUCHTER, Specialist in Horticulture.
 E. H. BRINKLEY, Farm Help Specialist.
 G. W. POST, Specialist in Boys' and Girls' Poultry Clubs.
 VENIA M. KELLAR, State Home Demonstration Agent.
 MARGARET SCHMIDT, District Agent in Home Economics Work.
 MABEL L. STEPHENSON, District Agent in Home Economics Work.
 OLA M. DAY, District Agent in Home Economics Work.
 ADICE S. JONES, Specialist in Girls' Club Work.

COUNTY DEMONSTRATION AGENTS.

E. O. Anderson.....	Denton	Caroline
L. L. Burrell.....	Chestertown	Kent
J. P. Burdette.....	La Plata.....	Charles
G. R. Cobb.....	Salisbury	Wicomico
J. L. Davis.....	Cambridge	Dorchester
B. B. Derrick.....	Bel Air	Harford
J. H. Drury.....	Chaney	Calvert
J. L. Fidler.....	Ellicott City.....	Howard
F. W. Fuller.....	Westminster	Carroll
P. A. Hauver.....	Frederick	Frederick
J. F. Hudson.....	Towson	Baltimore
O. C. Jones.....	Centreville	Queen Anne's
C. Z. Keller.....	Princess Anne.....	Somerset
J. H. Knode.....	Elkton	Cecil
John McGill, Jr.....	Cumberland	Allegany
G. W. Norris.....	Annapolis	Anne Arundel
E. I. Oswald.....	Snow Hill.....	Worcester
T. L. Smith.....	Hagerstown	Washington
C. H. Taylor.....	Upper Marlboro.....	Prince George
J. A. Towler.....	Oakland	Garrett
F. J. Van Hoesen.....	Rockville	Montgomery
E. P. Walls.....	Easton	Talbot
G. F. Wathen, Jr.....	Loyeville	St. Mary's
Ira V. McKenzie (Asst.).....	Cumberland	Allegany
W. C. Thomas (Asst.).....	Towson	Baltimore
J. F. Armstrong (Col.).....	Seat Pleasant.....	Prince George
L. H. Martin (Col.).....	Princess Anne.....	Somerset
J. W. B. Tull (Col.).....	Chestertown	Kent

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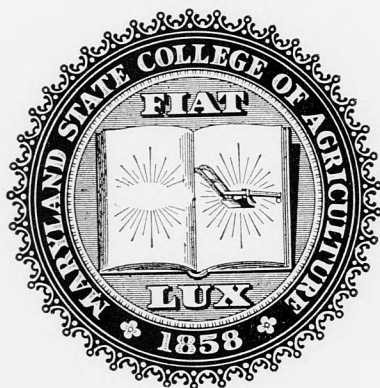
E. O. Anderson.....	Denton	Caroline
L. L. Burrell.....	Chestertown	Kent
J. P. Burdette.....	La Plata.....	Charles
G. R. Cobb.....	Salisbury	Wicomico
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J. H. Drury.....	Chaney	Calvert
J. L. Fidler.....	Ellicott City	Howard
F. W. Fuller.....	Westminster	Carroll
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J. H. Knobe.....	Elkton	Cecil
John McGill, Jr.....	Cumberland	Allegany
G. W. Norris.....	Annapolis	Anne Arundel
E. I. Oswald.....	Snow Hill.....	Worcester
T. L. Smith.....	Hagerstown	Washington
C. H. Taylor.....	Upper Marlboro.....	Prince George
J. A. Towler.....	Oakland	Garrett
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(Continued on 3d Cover Page)

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Maryland State College of Agriculture

EXTENSION SERVICE



FOR THE

YEAR ENDING JUNE 30, 1918

MARYLAND STATE COLLEGE OF AGRICULTURE AND U. S. DEPARTMENT
OF AGRICULTURE COOPERATING

LETTERS OF TRANSMITTAL

DR. A. F. WOODS,

President:

I have the honor to submit herewith the Fourth Annual Report on the work of the Extension Service of the Maryland State College of Agriculture, in cooperation with the U. S. Department of Agriculture, for the fiscal year ending June 30th, 1918.

Respectfully submitted,

THOMAS B. SYMONS,

Director Extension Service.

College Park, Md.

January 1, 1919.

HON. S. M. SHOEMAKER,

Chairman, State Board of Agriculture:

In accordance with the requirements of the Act of Congress, approved May 8th, 1914, and known as the Smith-Lever Act, I have the honor to transmit herewith, for submission to the Governor of the State the Fourth Annual Report of the Extension Service, of the Maryland State College of Agriculture, in cooperation with the U. S. Department of Agriculture, for the fiscal year ending June 30th, 1918.

Respectfully submitted,

A. F. WOODS, *President.*

College Park, Md.

January 1, 1919.

To His Excellency, EMERSON C. HARRINGTON,

Governor of Maryland:

I have the honor to transmit herewith the Fourth Annual Report of the Extension Service of the Maryland State College of Agriculture, in cooperation with the U. S. Department of Agriculture, submitted to me through the President of the College.

Respectfully submitted,

S. M. SHOEMAKER,

Chairman State Board of Agriculture.

Baltimore, Md.

January 1, 1919.

FOURTH ANNUAL REPORT
OF THE
Maryland State College of Agriculture
EXTENSION SERVICE

FOR THE YEAR ENDING JUNE 30, 1918

By THOMAS B. SYMONS, *Director*.

INTRODUCTION.

History will record the events of the year 1918 as the most momentous in the experience of the present generation. Of these events, the successful effort of the American people to sustain our allies and ourselves in war with food products through conservation methods and increased production will not be the least of our triumphs.

The hope of civilization in conquering the common foe was not a little aided by the untiring and patient farmer supported by all patriotic citizens who could render any possible aid.

Naturally, the agencies that have been responsible for leading the great agricultural and conservation programs can now register in an humble, but nevertheless convincing manner, the splendid results of their activities during the critical war period.

The Extension Service of the Maryland State College in cooperation with the U. S. Department of Agriculture has met its obligations and responsibilities and herewith sets forth the results of the labor of all the earnest men and women who have contributed to the successful work of this Institution, in the field of Extension work during these trying times. This record has been made only through the untiring effort and earnest cooperation of every member of the organization and the generous response of the great body of farmers of the State who answered the call of the Nation by an increased production of food crops under most difficult conditions, who generously received our suggestions and who permitted the Extension forces to render a greater service to them than ever before.

The State has made a commendable increase in the standard food crops as corn and wheat. It has increased its live stock, especially hogs and sheep, and at the same time followed a safe program in rotation and production of feed for its increase in live stock. Our increases have been regular. Emphasis has been placed upon yields

per acre rather than acreage alone and as a result, our farmers are in a better position to face the future, whatever there may be in store for agriculture.

The farm labor situation has been and is still very acute. Nevertheless, with larger crops than ever before, the actual loss due to lack of labor in this State has been insignificant. This has been due in a large measure to the manner in which the farmers and their families have made every sacrifice by continued labor in field and home. The Extension Service in conjunction with other agencies has been a potent factor in relieving the situation so far as it could be relieved. The cooperation that some of the agents have been able to promote between business men and farmers to reduce the labor shortage during harvest seasons has been of inestimable value. The utilization of the Boys' Working Reserve in a practical manner has also aided the situation; but the fact that stands out is that our Service was not stampeded into hysterical action in any county or section and that the results prove the resourcefulness of the Maryland farmer when faced with a difficult situation. The practice of being exceedingly frank with our constituents, of presenting fair and incontrovertible arguments usually inspires confidence and determination to attain a given end, if such is possible.

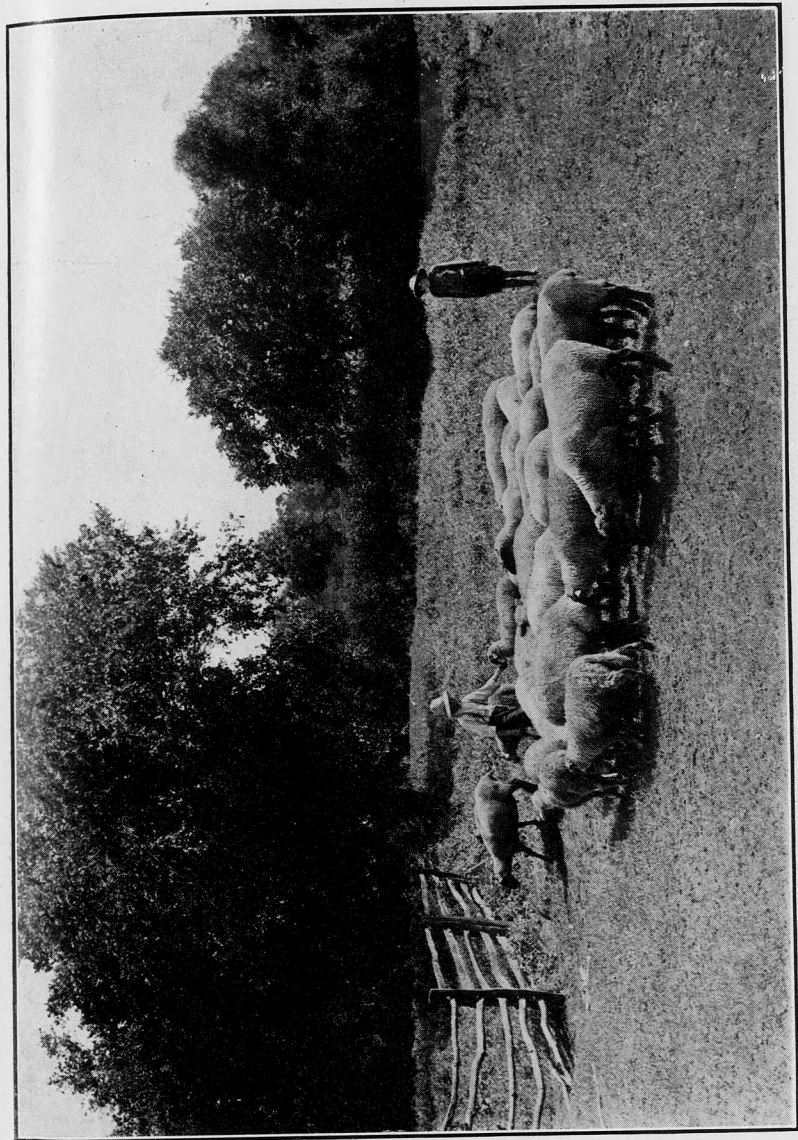
The labor situation was clearly and frankly placed before our farmers last spring through a series of meetings held in all counties of the State, which did much to bring about the gratifying results.

An equal tribute should be paid to the farm women of the State and to our women agents. They have done a great and noble work. The campaigns for conservation in cooperation with the Food Administration and other agencies have been most successful.

The wonderful production from farm, town and city gardens and the home conservation of these products have indelibly impressed upon many households the possibilities of home provision. This work will mean much in future economies for our people.

During this ordeal, during this period of anxiety and apprehension and during the hysteria of one agency or another, which oftentimes were groping in the darkness of ignorance and the weakness of over zealousness, we have been able to maintain our equilibrium, maintain our prestige and demonstrate our ability to cooperate with every legitimate organization whose aims and desires have been in the interest of the common end. We have been exceedingly fortunate that no wires have been crossed in this State to the detriment of the work and that a fuller realization on the part of the public generally, of the possibilities and necessity of the work of the Service, is evident upon all sides.

These manifold and gratifying results have been possible only through the able leadership of President Woods and his ardent support in every field of our endeavor and especially through the financial assistance rendered through his aid by the State Council of Defense. Equally generous and important has been the assistance ren-



No. 1.—Boys' Club Work with Sheep.
—Photographed in Cooperation with States Relations Service.

dered by the States Relations Service of the Department of Agriculture. The leadership of Dr. Knapp has demonstrated his sincere interest in the welfare and promotion of our Service and it has been through the generous allotment of Federal Emergency Funds that we have been able to carry on the work upon such an extensive scale during the past year.

ADMINISTRATION.

The administrative work of the Service has largely increased during the past year, due to the enlargement of the Extension forces and the large amount of emergency work. The plan of our Extension organization has not changed from the preceding year. We have added one District Agent and Specialist to aid the Assistant Director in the supervision of the men's work and three District Agents have been added to aid the Home Demonstration Agent in supervising the women's work. The administration of the Service under present conditions has been most agreeable and satisfactory from every standpoint.

The clerical work of the Service has been exceptionally heavy during the past year. With the addition of specialists and emergency workers correspondence increased. Eight clerks and stenographers are necessary to care for the office work. More than 57,990 first-class letters have been mailed during the year, while the total pieces of mail sent from the office is about 194,444.

Relations.

The relation of our Extension representatives with the other divisions of the institution have been most agreeable and their hearty cooperation has greatly aided in the prosecution of our work. Plans are under way through the more complete organization of subject matter departments in the institution to permit a more systematic exchange of ideas and plans between the several workers in any given field. As previously pointed out, the organization of the State Board of Agriculture with the President of the College as its executive officer and the State Defense Council delegating all emergency agricultural work through the President to this Service, had prevented duplication and administrative difficulties that could easily have arisen, had separate agencies been evoked.

The relations of the Service with the public school authorities are agreeable and cooperative. Particularly is this true with the boys' and girls' club work which is conducted in cooperation with the county school officials.

The Farmers' Institute work is now conducted by the Extension Service. Though the appropriation of State funds for this work was discontinued by the last Legislature, there is still a great demand for farmers meetings and one-day institutes in practically all counties of the State. The Service is now conducting this work with our regular Specialists and it is difficult to meet expenses from other funds.

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State Organizations.

The farmers organizations of Maryland are federated into the Maryland Agricultural Society. Six industries are now organized and affiliated with the Society. Just as soon as other industries show strength and willingness to organize, the Society welcomes their affiliation. The Director of Extension is Secretary of the Agricultural Society and various members of the Service are secretaries of the respective affiliated associations. By this means, the Extension forces are in close touch with the organized farmers of the State. There is also a close association with the State Grange organization. There is, therefore, a unity of purpose of all forces in advancing the agricultural interests of the State.

Sources of Extension Revenue.

During the fiscal year ending June 30, 1918, there was available for Extension work; \$30,657.95 from Federal Smith-Lever Funds; \$20,657.95 from State Smith-Lever Fund; \$20,380.00 from U. S. Department of Agriculture; \$33,000 from Federal Emergency; \$23,000 from the County Demonstration Fund; \$5,000 from State Fund for General Extension work; about \$2,000 from the State Horticultural Fund; \$6,000 for Farmers' Institute and about \$20,000 from State Emergency Fund, or a total of \$160,695.90 which was devoted to all phases of Extension and Demonstration Work in the State.

During the present fiscal year ending June 30, 1919, there is available \$37,113.56 from Federal Smith-Lever Funds; \$27,113.56 from State Smith-Lever Funds; \$25,380 from the U. S. Department of Agriculture (regular); \$75,000 Federal Emergency; \$48,000 County Demonstration Fund; about \$2,000 from the State Horticultural Fund; \$5,060 from the State Fund for General Extension work and about \$15,000 from State Emergency Fund, or a total of \$234,667.12 which will be devoted to all phases of Extension Work during the year.

In addition to the above there is about \$8,000 contributed by the various counties and other sources for aiding in the efficiency of County Agent work.

A detailed statement of expenditures and allotments of those funds will be appended to this report.

The provision by the State of \$1,000 for a man Agent and \$500 for a woman Agent, together with a small allotment for expenses and clerical assistance for each county has proved to be of inestimable value in putting the work upon a substantial basis. The State Emergency funds has augmented these amounts and enabled the agents to do much more efficient work than ever before. On account of the traveling expenses provided, as well as clerical assistance the agents have been in position to render most valuable service during the war period.

The policy of having County Agent work supported from public funds both, from State and county, enables the agent to be free to serve all interests and all the people of a county. This, in my opinion, is the only basis under which the work should be conducted.

With the adoption, by the State, of a budget system for the fiscal year beginning October, 1918, considerable difficulty arises in the transfer and adjustment of expenditures to comply with the budget. Practically all Extension Funds are expended in projects approved by the U. S. Department of Agriculture. It is not easy to anticipate two years in advance, the exact expenditure of funds by items. No business concern would attempt to do this. For these reasons, State funds appropriated for Extension work can be more easily and wisely expended if the appropriation for a given line of work be made in lump sum. This applies particularly to the State Smith-Lever Fund in which cooperation and approval of the U. S. Department of Agriculture is necessary for its expenditure. It is hoped that the State officials will realize these difficulties and that a lump sum appropriation can be made for this work by the next legislature. This would in no way interfere with the State budget and would make the administration of the funds more workable and satisfactory from every standpoint. (Copy of the budget law or appropriation act is not available).

Office Accommodation, Equipment, Etc.

April 1, 1918, the offices and force of the Extension Service were transferred from the temporary building near the B. & O. Railroad to the first floor of the new agricultural building. The Service occupies about 8,000 square feet in the new building. The building furnishes excellent facilities for the Extension offices. Additional equipment in the form of desks, chairs, bookcases, etc., have been purchased; also necessary equipment in the form of slides, lanterns, slide cases, charts, maps, demonstration materials and office equipment, such as multigraph, mimeograph, typewriters, etc. A regular order system is followed in making purchases, awarded to lowest bidders, and proper inventory is made.

Changes in Personnel.

Comparatively few changes have been made in the personnel of the Service during the past season, except the addition of emergency workers. During the fiscal year the following appointments have been made:

Mr. F. A. Wirt was appointed Specialist in Farm Machinery, May 1, 1918. Mr. W. R. Ballard was appointed Emergency Home Garden Specialist vice Mr. B. W. Anspen resigned, effective May 15th. Miss A. E. F. McCarthy, Chief Clerk, resigned October 1st after a most efficient record with the Service since its organization. E. I. Oswald



No. 2.—County Agent Selecting Tobacco Plants for Seed in Calvert County.
—Photographed in Cooperation with States Relations Service.

was appointed Agent for Worcester County vice J. F. Monroe resigned. G. R. Cobb was appointed Agent in Wicomico County vice W. C. Vail resigned. C. E. Leathers was appointed Agent in Dorchester County vice G. B. Porter resigned. J. H. Knode was appointed Agent for Cecil County vice D. H. Kauffman resigned. J. Keiffer Funk was appointed Emergency Assistant Agent in Washington County, H. W. Fristoe, Emergency Assistant Agent in Harford County. Ira V. McKenzie and H. H. Dolan, Emergency Assistants in Allegany County. J. W. B. Tull, (colored), was appointed Local Agent for the upper Eastern Shore, effective April 5th.

Several changes were made in the women agents, as prior to this season they could not be employed upon a yearly basis, so constant changes were inevitable. Mrs. Georgiana Linthicum succeeded Miss Mildred Brady resigned as agent in Anne Arundel County, September, 1917. Mrs. Edith G. Norman succeeded Miss Alma Merwin as agent in Caroline County, January 1st, 1918. Miss Rachel Everett was appointed agent in Carroll County, November 1st, 1917. Miss Ella J. Day was appointed agent in Cecil County, June 1st, 1918. Miss Helen G. Walker succeeded Miss Elva Akin as agent in Dorchester County, March 1st, 1918. Miss Esther R. Nelson succeeded Miss Emily Ebner as agent in Frederick County, December, 1917. Miss Blanche Gittinger succeeded Miss Margaret Schmidt as agent in Harford County, October 1st, 1918. Miss Catherine Cowsill succeeded Miss Helen Erickson as agent in Montgomery County, October 1st, 1918. Miss Ruth Powell succeeded Miss Goldie E. Cook July 1st, 1918 as agent in Wicomico County. Miss Lucy J. Walter was appointed agent in Worcester County, March 1st, 1918. Miss Gwyneth Gminder, Miss Gladys J. Ward, Mrs. Florence B. Bennett were appointed as urban workers in Baltimore City during the past year.

A special form is used in securing data from prospective candidates seeking to become associated with the Service, either as agents or specialists. Our policy is to employ only men and women who have received training from a recognized Institution and who have had practical experience. The character of work demands the highest type of men and women obtainable. The people of the State expect our representatives to be leaders in their work. Appointments to the Service are made subject to the approval of the President of the College and the officials of the U. S. Department of Agriculture. We have been particularly fortunate in retaining the services of most of our experienced agents, both men and women. The policy of the Service is to recognize devoted service and ability of the individual as funds will permit. Men and women must be satisfied, to do efficient work in any field of labor. I believe this State, this Institution and this Service can afford to retain and maintain the very best caliber of men and women adapted to this work. It is the best investment that a State or County can make. For this reason our desire and policy is to maintain in a proper manner as permanent a force of capable men and women as is possible. Nothing is so ex-

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pensive as a constant change of men, either as County Agents or Specialists. In County Agent work, a personal knowledge of the county and its people is one of the agent's greatest assets. The effect of one's work, the record that a man can make in a given position is in direct proportion to his thorough knowledge of conditions, his careful analysis of the needs of a community or county, and his vigorous prosecution of definite policies for the permanent advancement of the agriculture of the section. Such policies can only be worked out over a series of years and the agent or specialist who changes positions frequently cannot expect to secure results and leave a permanent record of achievement. This does not infer that a man should get into a rut or become entirely satisfied with surroundings. He must continually be ahead of his constituents in leading movements for the betterment of conditions. However, he is better able to carry on progressive work under known conditions than in a new environment.

Methods Used for Increasing Efficiency of Workers.

The administrative officers are constantly following closely the work of the agents, making suggestions and presenting the accomplishments of the agents in different fields of labor which could be adapted to local conditions. A monthly conference of all Specialists is held regularly wherein the work of the Service is discussed. By this means the progress of the various lines of work in each county is outlined and the weak spots indicated. A summary of the weekly reports of all agents is prepared and circulated monthly throughout the Service so that each can observe what others are doing. District conferences of the agents are held for the purpose of exchange of ideas and discussion of new projects. For the submission of annual reports this year, three maps of each county were furnished the respective agents with a rubber stamp to indicate the location of demonstrations, organizations, farm visits and other work which had been conducted during this year. This attempt to visualize each agent's work was very successful. The plan serves to illustrate the part of the county or the character of work that the agent is neglecting or emphasizing. I believe this plan of visualizing our work will be very helpful to all of the workers in the Service.

Changes in Organization and Work to Meet War Emergency.

As pointed out in the introduction, there has been practically no change in our organization on account of war work. On account of the many and important emergency calls upon the service there has been necessarily a lesser amount of regular demonstration work conducted than under normal conditions. However, even under these conditions, the number of practical demonstrations conducted the past year is much larger than during the preceding year.

The demands upon the agents for assistance in securing farm labor has been probably the greatest single digression from the regular work. However, they could not otherwise render the farmers greater service in their effort to harvest the increased production of crops in the past emergency.

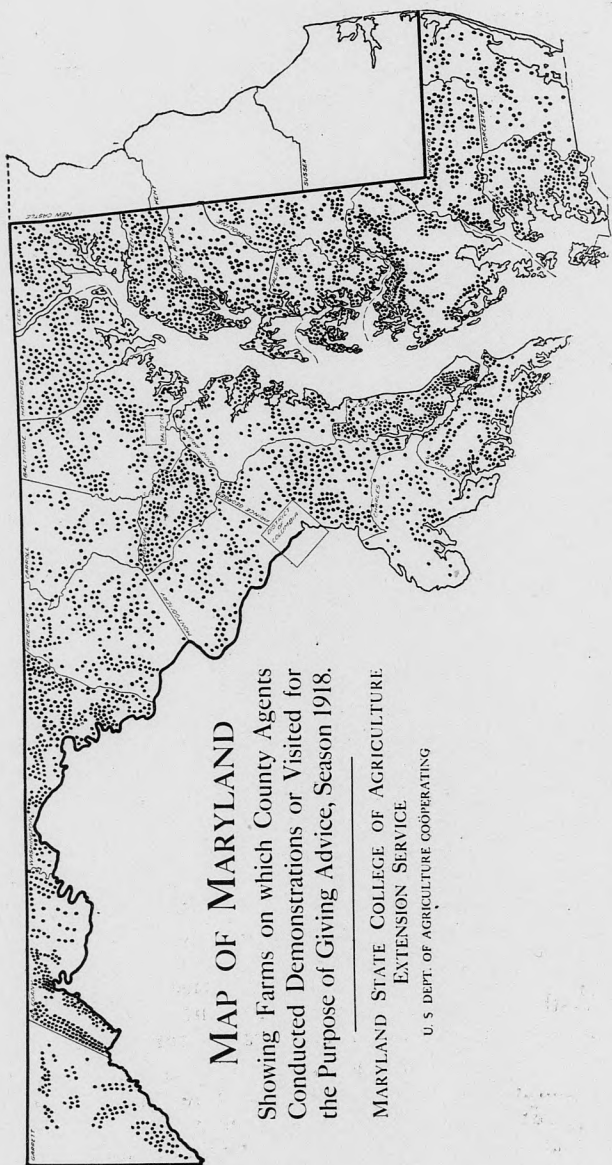
Much extra work has been undertaken by the Service in the interest of production and conservation, most of which will be of permanent value. In fact, many new activities born of necessity, will become permanent in the future work of the Service. Not the least of the benefits derived will be the more thorough organizations which have been built in rural sections. The emphasis placed upon raising gardens, the cooperation of business men and, particularly, a more thorough realization of the masses of their dependence upon the success of the agricultural industry.

The Assistant Director, Mr. F. B. Bomberger, has rendered able assistance in organization work and in the general administrative work of the Service. He visited all the agents, one or more times, offering constructive suggestions for systematic work, better organization of their field and office work and emphasized the benefits to be derived from properly conducted demonstrations. A summary of his activities will be listed under the County Agent summary and organization project.

PUBLICATIONS.

The following Extension Bulletins have been issued by the Service during the past fiscal year: Bulletin No. 3 (revised) "The Garden" by S. B. Shaw. No. 7, "The Hessian Fly" by E. N. Cory. No. 8, "Insects and Rodents Injurious to Stored Products" by E. N. Corey and H. S. McConnell. No. 9, "Electricity on the Farm" by Myron Creese; No. 10, "Improving the School Grounds" by B. W. Anspion; No. 11, "Control of Insects and Diseases of Fruits and Vegetables" by E. N. Cory; No. 12, "The Rural School Lunch" by Venia M. Kellar; No. 13, "Why We Can" by Gertrude Erickson; No. 14, "The Periodical Cicada or the Seventeen Year Locust" by E. N. Cory; "The Third Annual Report" with a total of 56,500 copies. "The Extension Notes" a bi-monthly publication was issued from July 1st, 1917 to January 1st, 1918, and superseded by "The State College Journal" devoted to the same line of work with a total of 84,000 copies distributed to the farmers of the State. A monthly News Copy Service has been issued to the State press with a total of 7,800 copies. Fifteen circulars on timely subjects making a total of about 45,000 copies have been distributed as follows:

No. 32—Cottage Cheese an Inexpensive Meat Substitute.....	G. E. Wolcott
No. 33—Pickles	V. M. Kellar
No. 34—Salads	V. M. Kellar
No. 35—Home-Made Soap	Gertrude Erickson
No. 36—Home-Made Silo	G. E. Wolcott



MAP OF MARYLAND

Showing Farms on which County Agents
Conducted Demonstrations or Visited for
the Purpose of Giving Advice, Season 1918.

MARYLAND STATE COLLEGE OF AGRICULTURE
EXTENSION SERVICE

U. S. DEPT. OF AGRICULTURE COOPERATING

No. 37—Canning Corn.....	V. M. Kellar
No. 40—Incubation	H. W. Rickey
No. 41—Brooding and Feeding Young Chicks.....	H. W. Rickey
No. 42—Spray Tomatoes in the Seed-Bed.....	C. E. Temple
No. 42—Barley Muffins	Gertrude Erickson
No. 43—Mites	H. W. Rickey
No. 44—The State Dog Law.....	
No. 45—Preserve Eggs for Winter Use.....	H. W. Rickey
No. 46—Raise More Wheat.....	F. W. Oldenburg
No. 27—Farm Animals in War Times.....	S. S. Buckley

In addition, a large number of posters, pamphlets and bulletins issued by the U. S. Department of Agriculture have been distributed by this office.

Plan of Organizing Extension Publications.

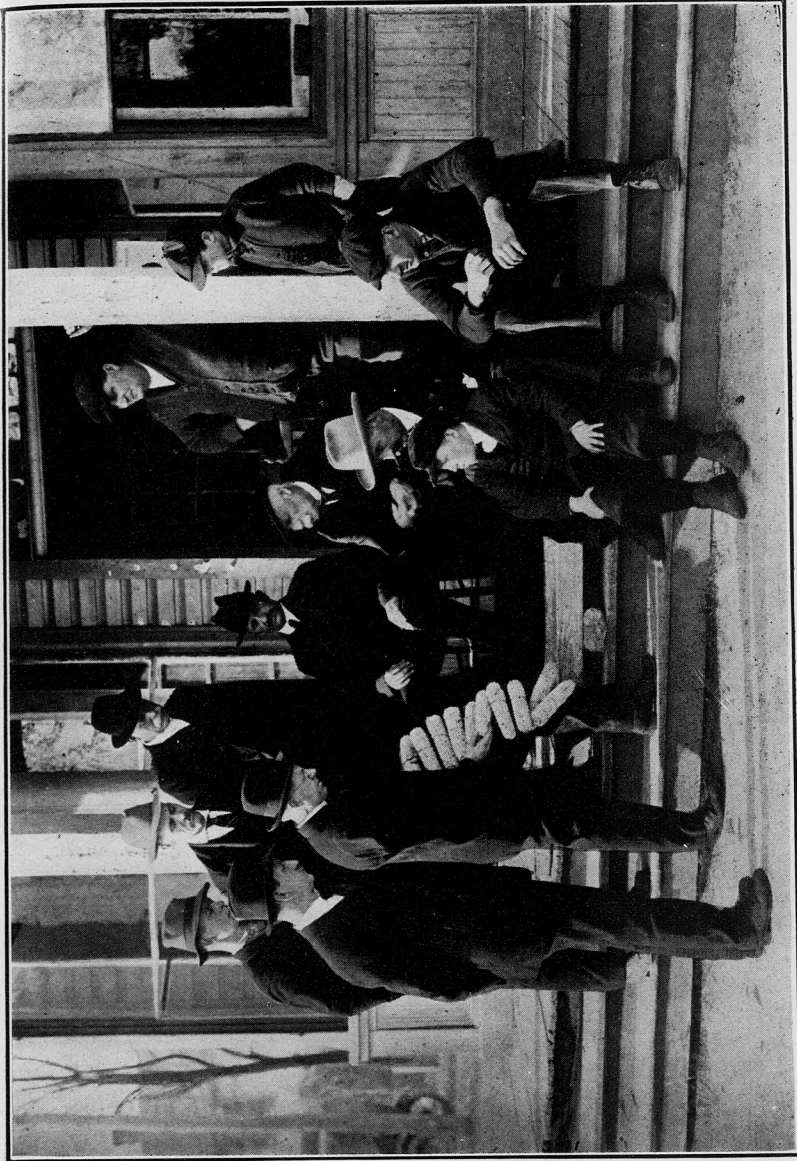
During the past year we were able to secure an agricultural editor who supervises the preparation and distribution of Extension publications. Specialists prepare circulars, lessons for Club Work, bulletins and other necessary matter for distribution. Our mailing list is organized on stencils classified so that we can send publications to any particular list. The Addressograph is used in addressing envelopes, etc. The list is constantly revised by the return of unclaimed envelopes. Demonstrators and others desiring regular publications are added upon request.

It is hoped to make progress during the year in organizing our printed, as well as illustrative material.

COUNTY DEMONSTRATION WORK.

This project provides for the Extension and demonstration work conducted by the men agents. Too much credit cannot be given the agents for their devotion to duty during the year and the splendid results achieved. A comparison with last year's records shows a large increase in the number of demonstrations in progress notwithstanding the large amount of Emergency work conducted. The sentiment in behalf of County Agent work is good in all the counties. Farmers are allowing the agents to render greater service to them than ever before. Twenty-three agents, one to each county of the State, with Assistants in four counties, have been engaged throughout the year.

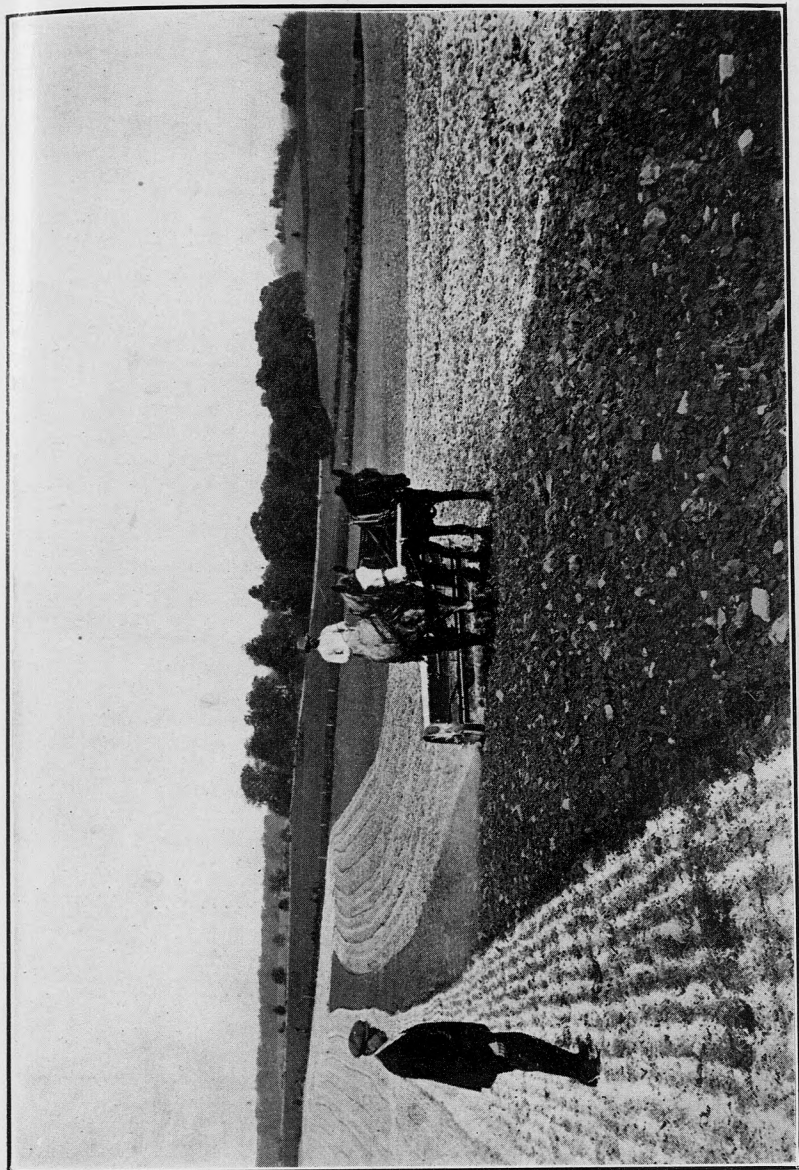
July 1st, 1918, T. E. McLaughlin, County Agent in Harford County, was appointed District Agent and Specialist. During the past six months, Mr. McLaughlin has visited and assisted fourteen agents. He has assisted in the dairy organization work and aided in the milk cost survey. Through the assistance of Mr. McLaughlin, we will be able to render more assistance to the field men.



No. 3.—County Agent Demonstrating Selection of Seed Corn Prior to Testing.
—Photographed in Cooperation with States Relations Service.

The following summary of work conducted has been taken from the agents' annual reports:

<i>Crop.</i>	<i>No. Demonstrations.</i>	<i>Average Yield Per Acre.</i>
Corn	647	68.22 bushels
Wheat	294	23.22 bushels
Tobacco	236	1450 pounds
Oats	18	40.12 bushels
Rye	84	16.4 bushels
Buckwheat	2	18. bushels
Mixed Grasses	57	2.5 tons
Soy Beans.....	192	{ grain { 12.12 bushels
Alfalfa	253	{ hay { 2.31 tons
Crimson Clover	177	3.37 tons
Cow Peas	71	2.16 tons
Irish Potatoes	273	(hay) 1.89 tons
Barley	7	182.48 bushels
Navy Beans	7	18. bushels
Tomatoes	146	17. bushels
		335.5 baskets
ORCHARDS	961	Instructed in the culture of 496,817 trees.
DAIRY CATTLE	85	Pure bred bulls and 558 registered heifers were brought into the State as a result of the activities of the Agents.
BEEF CATTLE	15	Pure bred bulls and 99 pure bred heifers have been brought in through the County Agents' influence.
HOGS	529	Pure bred boars and gilts have been purchased by demonstrators.
SHEEP	151	Pure bred rams and 795 registered ewes have been purchased as the result of the County Agents' influence.
POULTRY	20,732	Chickens and 1,610 ducks have been cared for according to methods advocated by the County Agents.
LIVE STOCK DISEASES AND PESTS.....	21,875	Head of live stock have been treated for diseases or pests at the suggestion of County Agents and Specialists.
FERTILIZERS	214	Farmers compounded fertilizer and 451 farmers top-dressed crops at the suggestion of the County Agents.



No. 4.—Demonstration in Lining Soil in Montgomery County.
—Photographed in Cooperation with States Relations Service.

MANURE	1,730	Farmers carried out the suggestions of County Agents relative to the better care and handling of the manure. The Agents helped to place 64 manure spreaders on demonstration farms.
SILOS	41	Silos were built under the direction of the County Agents.
LIME	1,870	Farmers have used lime under the direction of the County Agents.
ORGANIZATION	186	Farmers' organizations have been perfected by the County Agents during the year. Total membership, 12,940. Total number community organizations, granges, farmers' clubs, etc., 526.

1.	Number of visits to farmers by county agents.....	26,892
2.	Number of miles traveled by county agents.....	230,789
3.	Calls on agents relative to work at office or home (personal).....	25,977
4.	Calls on agents relative to work (telephone)	19,337
5.	Number of farmers' meetings held under auspices of agents..	2,554
6.	Number of meetings addressed by county agents.....	2,733
7.	Total attendance at such meetings.....	179,096
8.	Number of field meetings held.....	611
9.	Total attendance at these meetings.....	24,434
10.	Number of official letters written	34,427
11.	Number of circular letters prepared and distributed.....	64,702
12.	Number of articles relating to work published.....	1,530
13.	Number of bulletins of the State and U. S. Department of Agriculture distributed	23,094

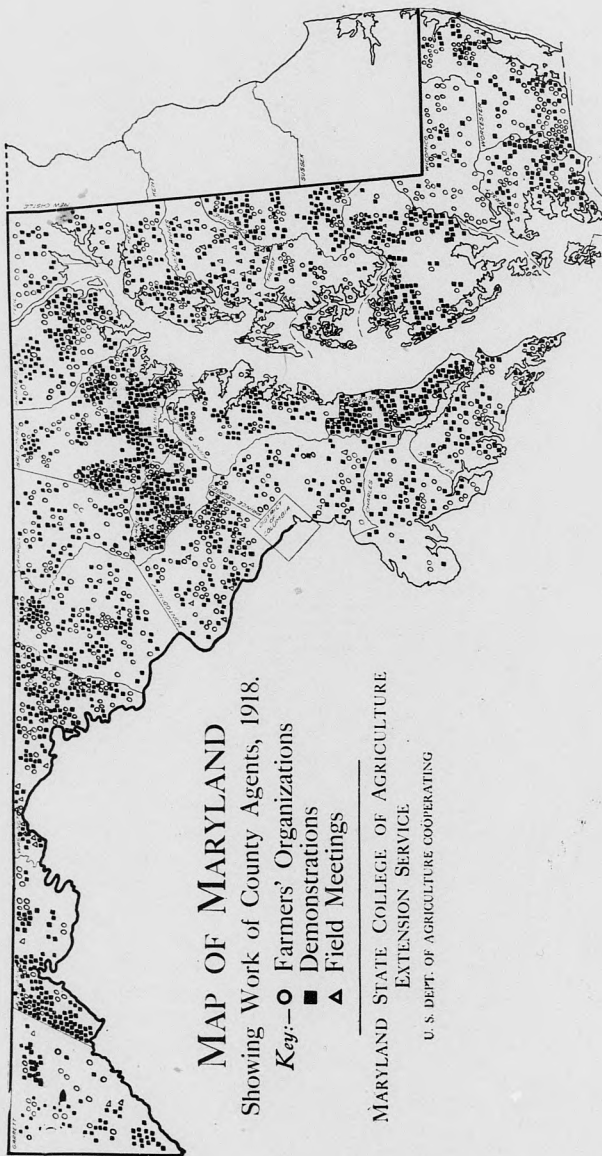
The Assistant Director summarizes his personal work as follows:

Meetings attended	139
Addresses delivered	99
Attendance at meetings.....	17,725
Visits to agents	68
Visits to counties	87
Visits to demonstrations	79
Number of letters dictated	1,360
Number of miles traveled	14,159

The Director's summary is as follows:

Number of meetings attended	69
Number of addresses delivered	38
Attendance at meetings.....	9,750
Number of visits to agents and counties.....	41
Number of miles traveled (approximately).....	8,700

I wish space permitted giving a general summary of each agent's work by counties. On the whole their reports are excellent and



MAP OF MARYLAND

Showing Work of County Agents, 1918.

Key:—○ Farmers' Organizations
■ Demonstrations
▲ Field Meetings

MARYLAND STATE COLLEGE OF AGRICULTURE
EXTENSION SERVICE
U. S. DEPT. OF AGRICULTURE COOPERATING

present interesting data concerning the progress of agriculture in their respective counties.

A brief summary of three successful undertakings conducted by each agent during the year was submitted in their annual reports.

Negro Work.

Three colored men agents have done excellent work during the year. One devoted his activities to Southern Maryland Counties and two to the lower and upper counties of the Eastern Shore. Appointment of a colored agent for Howard, Frederick and Anne Arundel Counties will be made this spring. These agents have been of great assistance to the colored farmers of these sections. They have conducted 548 demonstrations in farm crops and live stock. They have aided in the control of hog cholera, organized several rural clubs and conducted boys' club work. Several community exhibits have been held, showing the growing interest among negroes in the improvement of their methods of growing farm crops, as well as in raising live stock. The agents cooperated in arranging for the large State Fair for colored people held at Salisbury, Md.

The future of the work holds out splendid possibilities for improving the citizenship and general welfare of our colored farmers.

The colored agents have done splendid work in war activities and encouraged conservation of farm products during the war period.

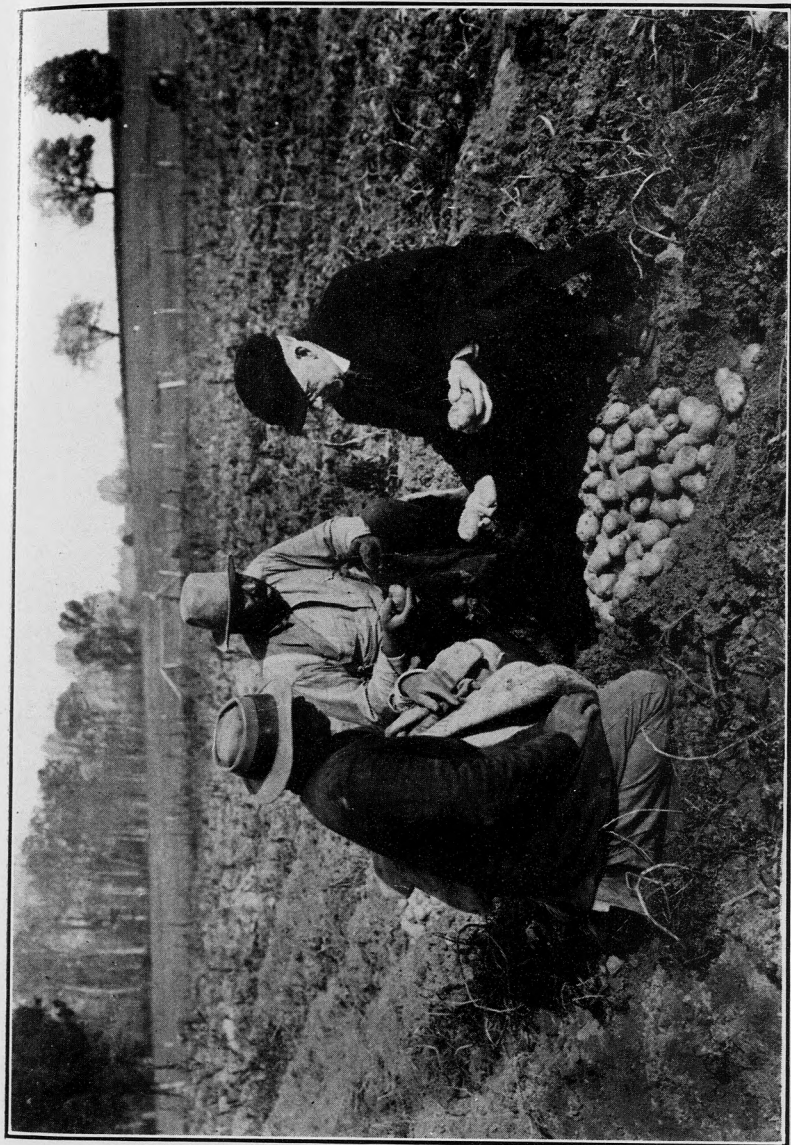
War Emergency Work.

Farm Labor:—

A special report upon the emergency work conducted by the Service has been submitted to the State Council of Defense. This includes the special work of the agents and specialists in the distribution of farm labor. In several sections of the State men from Industry spent considerable time in the field during the harvest period. In Hagerstown, more than 200 men were released from city industries and turned over to the farmers. This good work was accomplished through a spirit of cooperation on the part of all good citizens.

The Boys' Working Reserve—has been of great assistance to the farmers in various sections of the State. Another effective source of labor was the conscientious objectors from Camp Meade. The County Agents, through the Farm Help Specialist of the U. S. Department of Agriculture, placed 190 objectors on Maryland farms. These men are still engaged and on the whole, are giving satisfaction as farm laborers.

*Public Tractors:—*Nine public tractors have been operated by the State, under the supervision of the Agents. A full report of this work will be given under the project of farm machinery.



No. 5.—County Agent Demonstrating Selection Seed Potatoes in Montgomery County.
—Photographed in Cooperation with States Relations Service.

Threshing Machine Inspection—In order to conserve our wheat, a campaign was inaugurated in cooperation with Food Administration to prevent waste during the threshing operation. Mr. E. H. Brinkley was employed as Threshmen's Assistant by the United States Grain Corporation. In cooperation with our Service, he inspected 640 threshing machines in the State and the owners were advised concerning the operation of the machines and the conservation of grain. It is estimated that as a result of this work, at least 50,000 bushels of wheat have been saved for marketing purposes.

Seed Corn Testing Week:—A special campaign was conducted in the spring to induce and demonstrate to farmers the importance of testing seed corn. In many instances the seed tested did not give 50% germination. The Governor issued a proclamation urging the importance of testing seed corn and demonstrations were carried on by the County Agents in all sections of the State. The results of this work cannot be estimated in dollars and cents.

Control of Insects and Diseases:—Special work in the control of insects and plant diseases was conducted from Council of Defense funds. Those will be cited under the projects for this work. The work included the control of an outbreak of plant lice on the tomato crop; treating wheat for smut, spraying tomatoes for blight, a rat extermination campaign, etc.

A second milk-cost survey was conducted by the Service in ten counties during the summer, covering the week, August 18th to 25th.

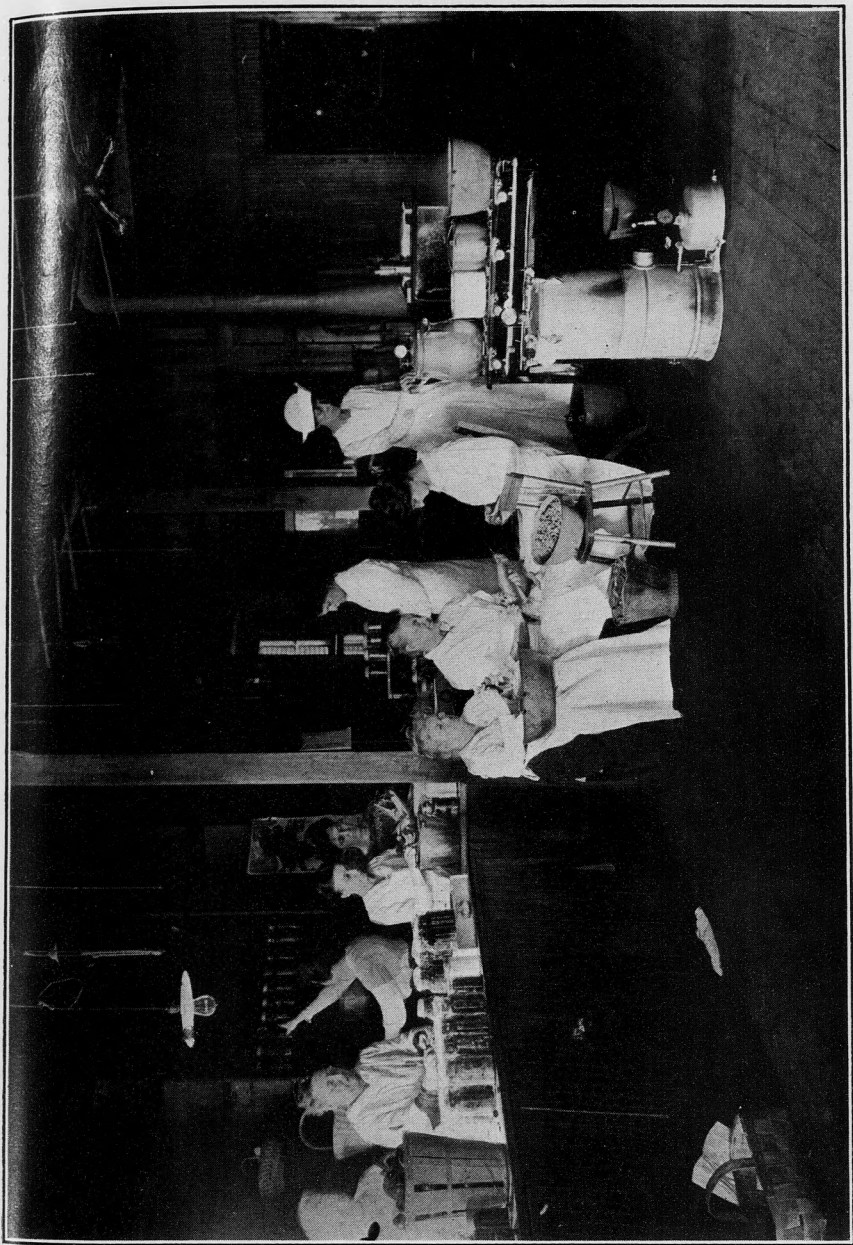
Other special lines of work such as supervising the sale of nitrate of soda for the Government, collecting seed accounts, etc., have added to the agents duties.

The past year has demonstrated conclusively to all sections of the State the possibilities of County Agent work and its effectiveness in aiding the farmer in his problems when guided by trained, earnest and effective workers.

HOME DEMONSTRATION AND GIRLS' CLUB WORK.

Miss Venia M. Kellar, State Home Demonstration Agent, reports that the past twelve months have been the banner year for the Home Demonstration Work in Maryland. The war awakened the people to the need of women agents in assisting in food production and conservation as applied to the home. While other organizations, temporarily organized to aid in conservation work were stimulating interest and helping in emergency work in all the counties, in each case the home demonstration agent was the effective force in carrying on the work of these agencies.

In most cases, leaders of other organizations were not so situated that they would devote their entire time to the work assigned them. They therefore helped in the organization and publicity work while the demonstration work was done by the agents.



No. 6.—A Demonstration in Canning.
—Photographed in Cooperation with States Relations Service.

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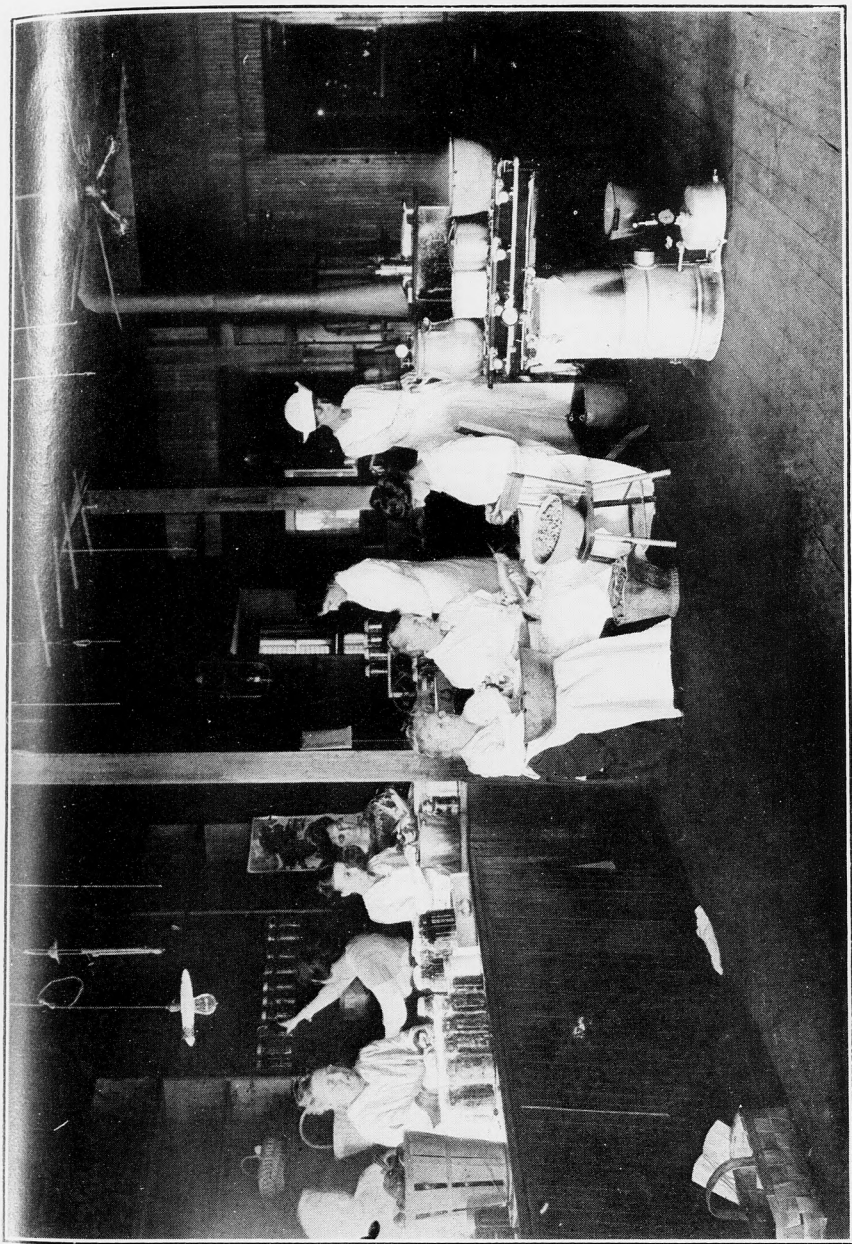
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No. 6.—A Demonstration in Canning.
—Photographed in Cooperation with States Relations Service.

The women's section of the Council of Defense of Maryland had one of the most comprehensive organizations of any State in the union and at all times this organization worked in thorough cooperation with the Extension Service. The Food Administration, which has done most efficient work in the State, has been of great assistance to our organization not only cooperatively but financially.

Miss Kellar reports that more poultry has been raised, more gardens planted and more products canned this year under the direction of the agents than ever before.

Twenty-three County Agents, one to each county, have been employed during the year, together with a number of urban workers, making a total of 41 women engaged in home demonstration work. Each agent has had Home Economics training which means efficiency in conducting home demonstration work. Every County Agent has an office which usually is adjacent to that of the man agent, which enables a clerk to do the work of both agents. Sixteen agents have their own automobiles and traveling expenses are paid in part. Local support is secured either through the School Board or County Commissioners. A very successful short course and conference of agents and specialists was held at the college last March.

Three District Agents commenced work July 1, 1918 to aid in assisting the County Agents.

The home demonstration work in this State is now organized upon a splendid basis and the work is producing results.

Women's Work.

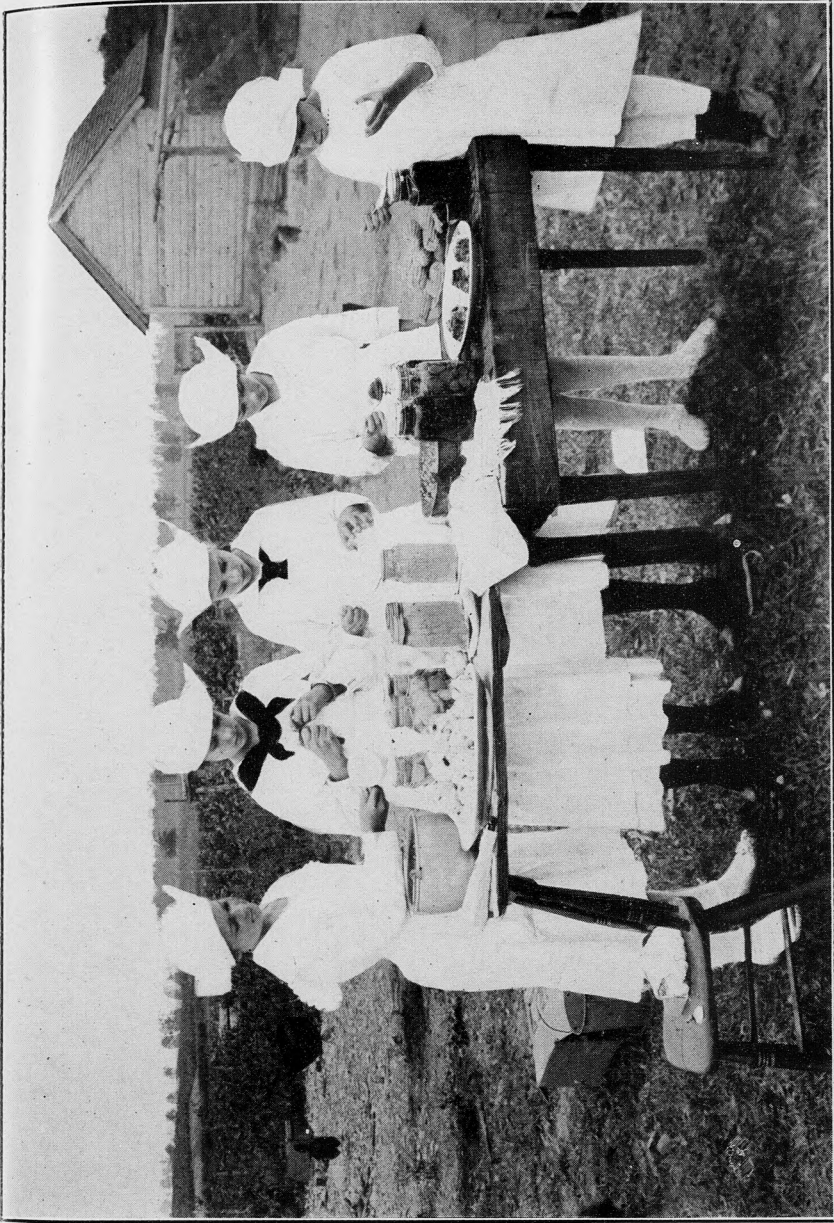
The aim of our Service is to reach the home makers and render every possible service to them. More than 1,135 women are conducting specific demonstrations with the agents. There are 91 women's clubs which hold meetings. More than 170,000 containers of food were canned by women under the direction of the agents. Many other phases of home economics work are taken up with the women. Special demonstrations are conducted by the agents at the women's club meetings.

During this war period there have been many food problems in the home, which the home demonstration agent could aid in solving.

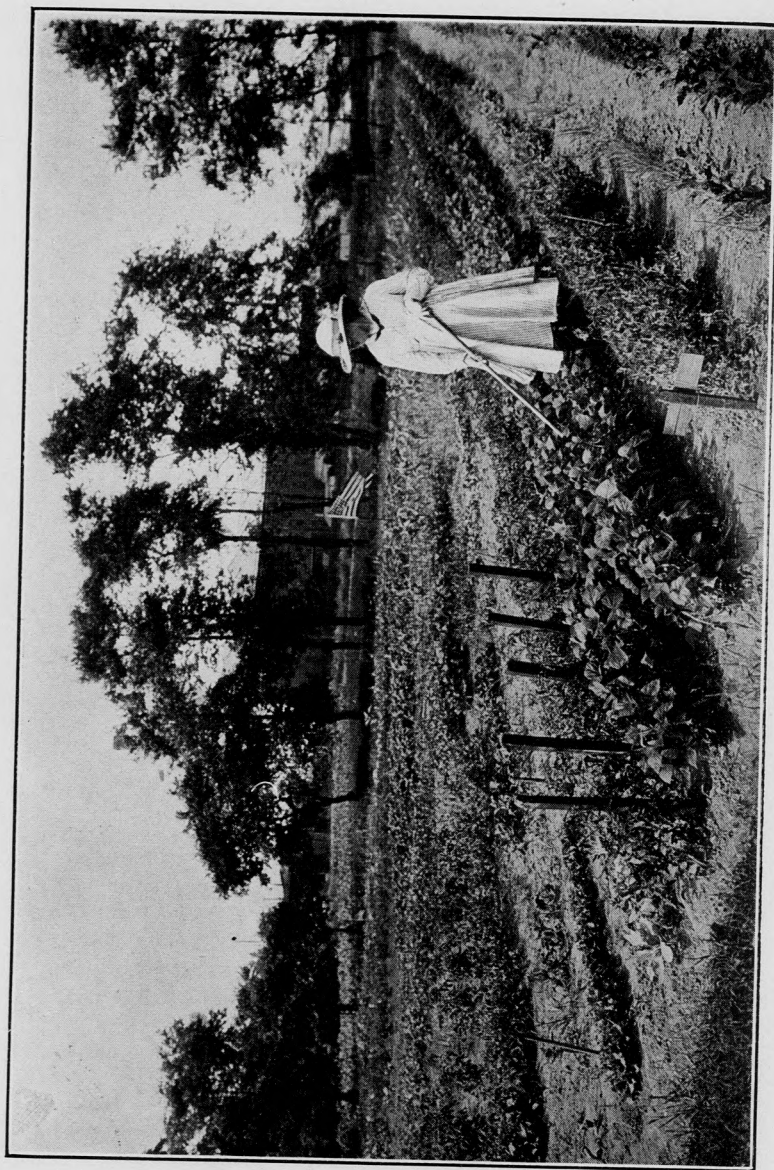
Several new projects have been undertaken this year and as the work grows, the agent will take up problems in the home other than the conservation of food products.

Girls' Club Work.

Progress has marked the Girls' Club Work during the past year. More than 2,500 girls have enrolled in the various classes of club work. The special war work in conservation and in production served to arouse an unusual interest in the Girls' Club Work. The members of the Girls' Clubs canned or preserved totals of 195,616 containers.



No. 7.—Girls' Canning Club at Work.
—Photographed in Cooperation with States Relations Service.



No. 8.—Community Girls' Club Garden Work at Hagerstown.
—Photographed in Cooperation with States Relations Service.

1,269 girls carried on sewing work, 457 poultry club work, raising 39,719 chickens, while 442 gave demonstrations in cooking club products and 140 conducted bread demonstrations. In all cases, this work has been conducted in cooperation with local school authorities.

A Junior short course for the prize winning girls in club work was held at the college last May. Thirty-four girls were given this trip. Through the courtesy of Mr. Edwin C. Baetjer of the State Food Administration, \$2,500 was given to be offered as prizes this season for excellence in the various classes of club work.

Very successful short courses for club girls were held in Garrett, Frederick, Washington, Wicomico and Dorchester Counties. All courses were well attended and great interest was taken by the club girls as well as the town people, who entertained the girls and gave them a royal welcome while attending the course.

Urban Work.

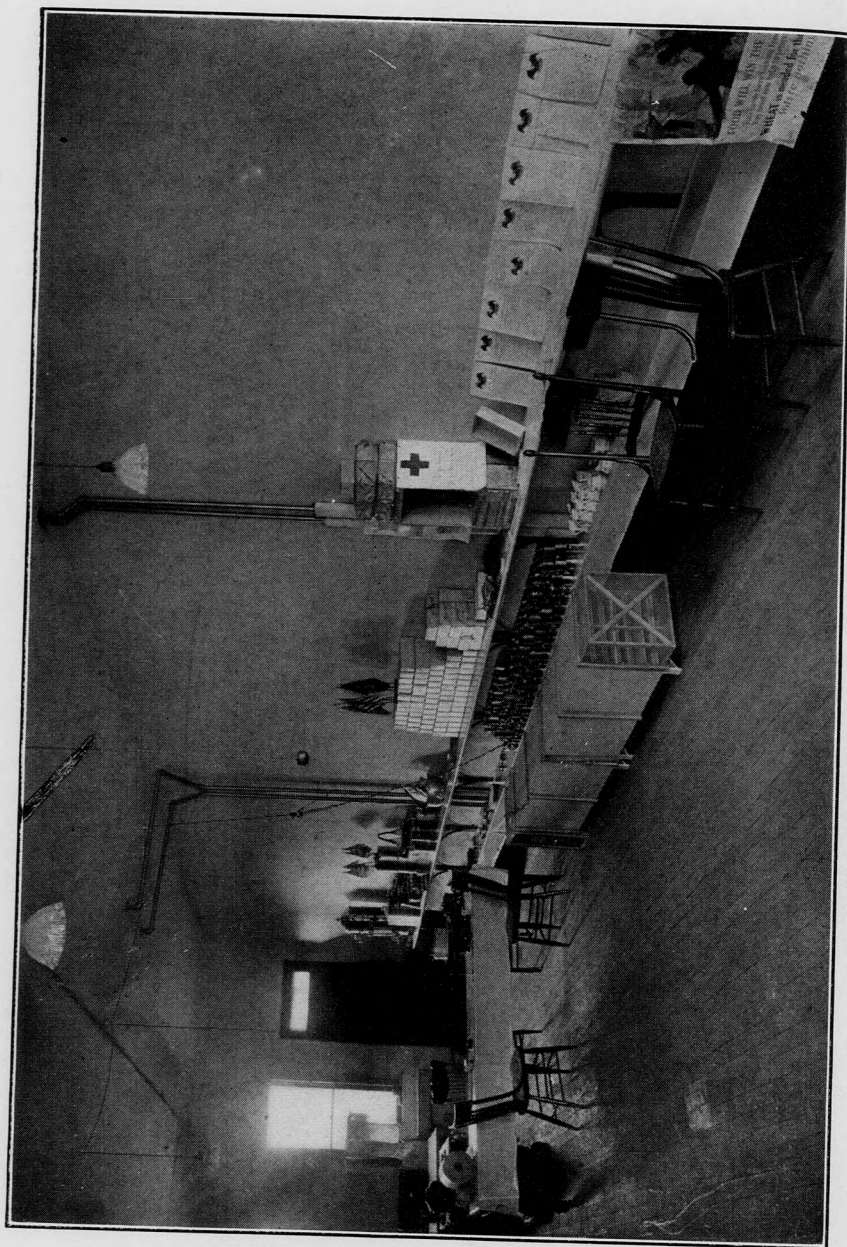
The urban work inaugurated last year has been continued and increased during the past season. Seven emergency workers have been employed in Baltimore, Hagerstown and Cumberland and special work has been done in other towns. In each city and even in each center of each city, it has been necessary to adopt a plan of work that would meet the needs of the different groups of people. In Baltimore City the problem has been hard to solve and the work has been of a varied nature; the best and most effective work has been done among the poorer classes of people who were in actual need of the agents' help.

Five agents, one colored, were employed in Baltimore City. The splendid results accomplished were made possible through the united efforts of the Food Administration, the Council of Defense, the School Board, the Women's Civic League, the Evening Sun and the Motor Messenger Service. Twelve school centers were opened for canning and drying for three days a week throughout July and August.

A large amount of garden work was also conducted in the city. In cooperation with the women's section of the Council of Defense a special campaign to promote the raising of backyard gardens, employing vacant lots and community gardens, was conducted. Thirty-one vacant lots were used for gardens and these were divided into 395 individual plots. A summary of the garden work will be given under the project for this work. Miss Alice Walton and Mrs. Adelaide Derringer were leaders in the conservation and production work in Baltimore.

Colored Work.

The results of home demonstration work among the colored people have been most satisfactory. They have responded to the instruction given by the agents in a most gratifying way.



No. 9.—Modern Community Kitchen at Frostburg, Md.

Five agents have been employed during the year, three in Southern Maryland, one on the Eastern Shore and one in Baltimore City. These agents have induced the colored people to raise and conserve a large amount of food products. The results of their work are included in the totals which will be given.

Community Kitchens.

Fourteen community kitchens were established during the summer. These kitchens were used as centers where canning and drying was done under the supervision of the county or urban agent. The Food Administration gave a Number 3 steam pressure canner for each kitchen and the Council of Defense provided the dryers. These kitchens were patronized by the people and served a useful purpose.

At the kitchen located at Locust Point in cooperation with the Public School at that point, six classes were organized for women and girls and instruction given in wheat substitutes, meat substitutes, etc. During the influenza epidemic, the Victory or Community Kitchen at Hagerstown was changed into an Emergency Diet Kitchen, furnishing gruels and broths to the hundreds of influenza patients.

"Over There" Meeting and Demonstration.

During the entire month of April a series of meetings and demonstrations were held in connection with the "Over There" exposition which was staged in the Fifth Regiment Armory in Baltimore City. The Extension Service in cooperation with the Food Administration and the Council of Defense had charge of all the food production and conservation work.

Four canning and drying demonstrations were given daily by club girls under the supervision of the County agents. During the month, fifteen agents and thirty club girls gave demonstrations. Three of the urban workers in Baltimore City gave demonstrations each day in wheat substitutes. This exposition furnished an opportunity to reach a large number of city, as well as county people with conservation methods.

Miss Kellar reports a summary of the State Home Demonstration work as follows:

Summary of Reports of District Agents and Specialists.

Number meetings attended	258
Total estimated attendance	33,693
Number visits to agents	118
Number demonstrations given	355
Number miles traveled	16,650
Number circular bulletins prepared	10
Number exhibits judged	66

Summary of County Agents' Reports.

Number consultations held	4,234
Visits to demonstrators, homes, schools, clubs, etc.....	3,882
Number general meetings held.....	1,532
Estimated attendance	35,516
Number letters written	6,013
Number circular letters sent.....	3,821
Number bulletins sent and delivered.....	14,717
Number miles traveled	55,788
Number girls enrolled in canning clubs (white and colored)....	2,533
Number girls reporting	936
Number girls enrolled in poultry clubs (white and colored)....	623
Number girls reporting	168
Number girls making demonstrations in cooking club products..	442
Number girls carrying on bread demonstrations.....	140
Number girls having winter gardens in operation.....	140
Number perennial gardens established.....	43
Number caps and aprons made.....	2,302
Number dresses made, 129; number towels, 1,753; number holders	1,724
Number miscellaneous articles made.....	1,868
Number women's clubs organized	91
Number women enrolled	1,135
Number labor-saving devices installed in homes.....	286
Number labor-saving devices purchased in homes.....	217
Number women and girls influenced by instruction in emergency work	20,833
Number home demonstration kitchens established.....	28
Number community canneries established.....	10
Number rest rooms established.....	4

Total Number Containers Canned.

Number containers packed from 1/10 acre gardens.....	83,780
Number containers packed by club members in addition to 1/10 acre gardens	111,836
Number containers packed by women in urban work.....	68,000
Number containers packed by colored club girls.....	31,523
Number containers packed by women doing food preservation work	220,566
Number containers packed by women doing emergency work....	98,755
Total number containers packed by girls and women.....	614,460

Dried Products.

Number pounds dried fruit and vegetables stored by women doing food preservation work.....	18,928
Number pounds dried fruit and vegetables stored by women doing urban work	5,282
Number pounds fruit and vegetables stored by women doing emer- gency work	17,014
Total number pounds fruit and vegetables stored.....	41,224
Total number gallons vegetables brined.....	26,699

Report on Extra Activities.

Number Liberty Bonds sold by agents.....	\$35,280
Number War Savings Stamps sold by agents.....	2,787

Number meetings attended in interest of Liberty Bonds	100
Number meetings attended in interest of War Savings Stamps.	92
Number meetings attended in interest of Red Cross	185
Number steam pressure canners in State.....	34
Number hot-water canners in State.....	85
Number cottage cheese demonstrations given.....	63
Number schools visited in interest of hot school lunch.....	196
Number grange meetings held.....	120
Number demonstrations given at grange meetings	29
Number demonstrations given at individual homes	742
Number Farmers' Institutes	36
Number Farmers' Picnics attended	10
Number fairs held	9
Number community shows held.....	21
Estimated attendance at fairs, etc.....	68,270
Amount of local money given for premiums.....	\$2,693.20
Number community organizations	103
Number Junior Short Courses held.....	5
Number girls attended Junior Short Courses.....	425
Number containers canned products sold by women	1,337
Number containers canned products sold by girls	1,924
Number club girls raising sheep	13
Number club girls raising pigs	105
Number club girls raising calves	4
Number Liberty Girls enrolled in United War Workers' Campaign	3,226

Summary of State Home Demonstration Agent's Activities.

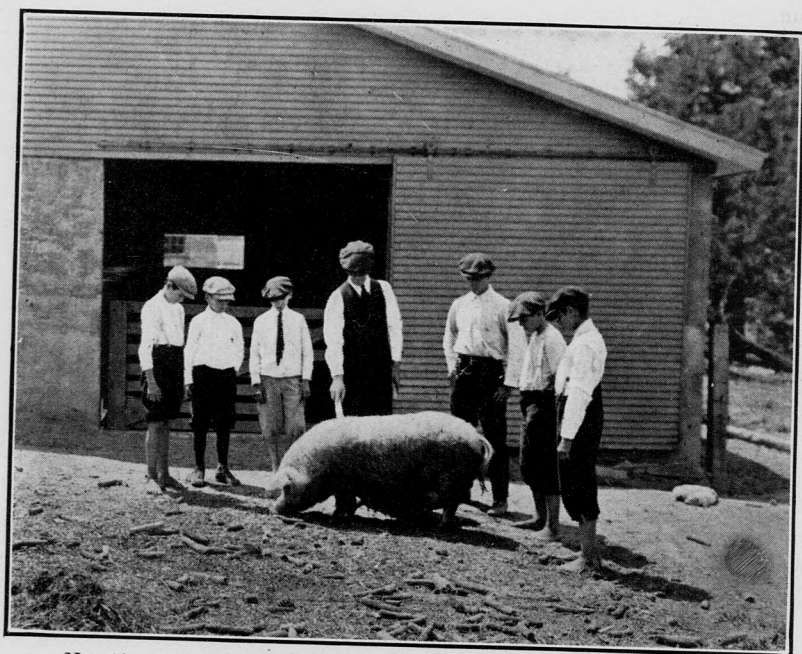
Number counties organized	23
Number county agents employed.....	23
Number assistant county agents employed.....	5
Number colored workers employed.....	5
Number urban workers employed.....	7
Number county agents employed full time	16
Number county agents employed part time	7
Number miles traveled by State Agent.....	10,113
Number meetings attended by State Agent.....	64
Approximate attendance	16,385
Number official letters dictated.....	2,769
Number demonstrations given by State Agent.....	37
Number visits to county and urban agents.....	85

BOYS' CLUB WORK.

The Boys' Club Work under the leadership of Mr. R. F. McHenry, State Boys' Club Agent, has made a splendid record during the past year. The work has greatly expanded and is being conducted upon a standard basis that will mean much in training our young men and directing their attention to the possibilities of agricultural pursuits. The purpose of club work is not only to arouse the interest of farm boys in their home, and school work, but in many cases it serves to introduce new methods of agriculture into a community and to standardize desirable breeding stock of either farm crops or live stock. The boys and girls are the hope of the future. It is our duty and privilege to spend every possible effort in cooperation with other

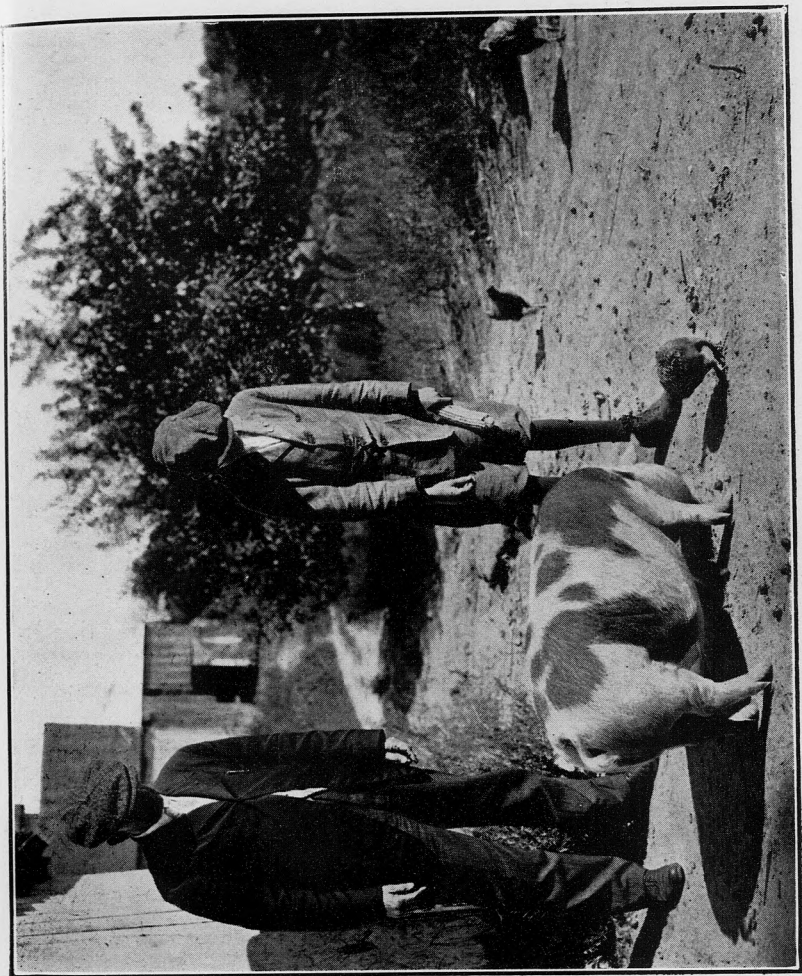
agencies to give them an insight into the financial, and social possibilities of farm life.

The Boys' Club Work in this State is conducted in close cooperation with the county school authorities. County superintendents have realized the usefulness of the work the boys are doing and encouraged its development through the schools. Our agents meet with the boys during school hours when time is set aside by the teacher to discuss club work. In a great many rural schools, this is the only agricultural work that is taught in the school. Teachers have not been prepared to teach it. This condition is now being remedied



No. 10.—Demonstrating Good Points to Boys' Pig Club Members.
—Photographed in Cooperation with States Relations Service.

as much as possible. The development of the work in this State will make easy a working agreement and the warmest cooperation between the rural school authorities, as well as the vocational board agencies. We hope to see the time when the teacher in the rural school will be responsible for the club work of a community. She will always want assistance from our agencies in carrying out the plans for development in the club work, and the general agricultural program advocated by the County Agent. When the rural teachers



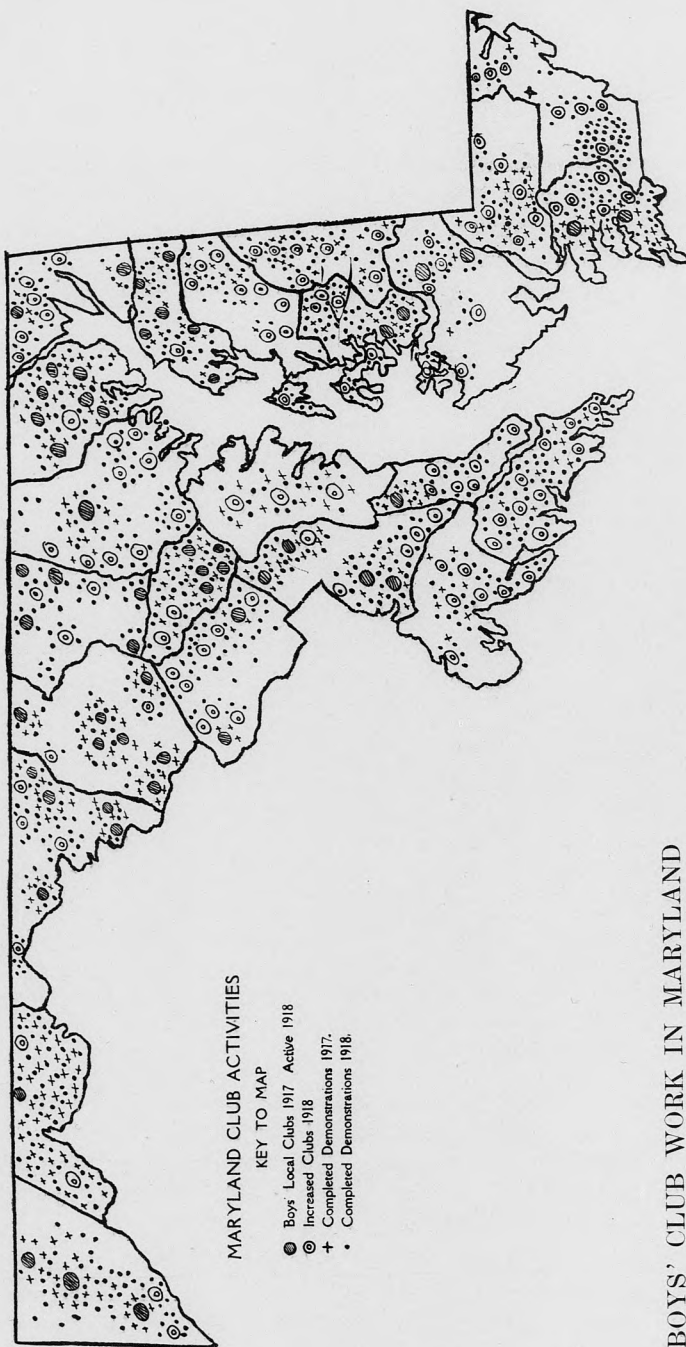
No. 11.—County Agent Visiting Member of Boys' Pig Club.
—Photographed in Cooperation with States Relations Service.

are in position to give proper instruction on agriculture and club work, we will be able to expand and accomplish far more than at present with our limited forces. We, therefore, confidently look for a bright future in club work based upon a mutual understanding between all agencies and organized upon a definite basis for permanent development throughout the State. Great progress has been made the past year in popularizing the work. Leaders in all business fields see the possibilities of club work when properly conducted. Bankers and other business men are becoming interested. Pure Bred Pig Breeding Clubs were organized in four counties by means of cooperation extended by the bankers. In these instances banks loaned money to boys with which to buy a pure bred gilt pig. The County Agent, in cooperation with the county school superintendent selected the boy demonstrators. The boys gave their personal notes, without endorsement, to the banks payable in twelve months. This is just an illustration of what this work can do for a county. Nine other counties have already made plans to conduct similar work.

In some sections, pure seed corn is brought in by the boys; in others, potatoes or poultry or other lines of club work such as calves or sheep clubs. This character of work offers immense possibilities. It will grow; it will be popular and it will be profitable. It is club work of an ideal type. It is solving practical problems; But it is only possible because we have established an organization of boys throughout the State and through the cooperation of the school superintendents been able to live and are still giving instruction to boys in groups and as organizations. Our agents visit the boys at their homes, at field meetings and thus are able to give definite instruction so that the boys can make a success, of the undertaking whether it is raising a pig, growing an acre of corn or potatoes.

Four assistant club agents have been appointed during the past year. These assistants were held responsible jointly with the County Agent for the supervision of club work in their territory. In the early spring, through the cooperation of the school authorities, 174 Boys' Agricultural Clubs were organized with a membership of 2,893. A systematic course of seasonable lessons on the various classes of club work was prepared by our specialists and sent each club member monthly. These are discussed at the club meetings in the school and at their homes. Specific requirements are made in conducting the demonstration. Of the 2,099 demonstrators, 1,217 satisfactorily completed their work in 1918, and turned in complete records of their demonstrations.

The following map illustrates the extent of the Boys' Club Work in this State:



BOYS' CLUB WORK IN MARYLAND

Emergency Club Workers.

In the spring, at the request of the U. S. Department of Agriculture, a campaign for emergency club members was conducted. These were not supposed to conduct regular club demonstrations. A total of 9,612 boys were enrolled in this campaign and these boys produced food products estimated to be worth \$140,579.

Farm Makers' Clubs.

Farm Makers' Clubs for negro boys have been organized under the direct leadership of the colored agents. Our policy has been to keep this work separate from the white boys club work but to organize and supervise the work in much the same way. The agents secured an enrollment of 291 colored boys. They held club meetings and were paid personal visits from time to time. The agents report much interest and satisfactory progress. Out of 291 boys enrolled, 56 submitted complete reports.

Short Course.

Ninety-two boys who were county winners in club work, were given a trip to the Maryland State College and a brief course of instruction while at the institution. The course was very successful and it is planned to make this a feature of club work in the future.

County Champions and State Winners.

Through the courtesy of Mr. Edwin G. Baetjer of the State Food Administration, \$2,450 was donated to be awarded as prizes to club members excelling in their work. This money was a great stimulus towards spurring the boys on to do their best. \$100 was awarded as prizes in each county. A \$50 Liberty Bond was given to each State champion in pig, corn and potatoes. These bonds were won by Jas. A. Hadaway of Kent County (pig); A. H. Harris of Kent County (corn) and R. Leroy Sellner of Prince Georges County (potatoes.)



No. 13.—Boys' Club Members Selecting Seed Corn in Calvert County.
—Photographed in Cooperation with States Relations Service.

The following tables give a list of the club winners with their records in the pig, corn and potato club work:

County Winners in the Pig Club Contest.

County	Name of Boy	Net gain live weight	Net profit	Pig story grade	%
Kent	James A. Hadaway.	409	\$37.40	25	84.36
Talbot	Upton Boulay.....	288	37.10	15	76.89
Carroll	Carroll Rill.....	290	34.98	21	76.52
Dorchester	Orville Corkran....	273	30.24	25	72.97
Montgomery	Ralph V. Driver....	265	29.76	25	72.26
Frederick	Earl Putnam.....	353	37.80	11	71.00
Somerset	Howard Jones.....	269	35.45	14	70.29
Calvert	Kenneth Ward.....	291	27.80	24	68.12
Wicomico	Louis Nichols.....	237	34.58	13	67.89
Allegany	Russel Athey.....	240	28.46	22	67.21
Caroline	Aubrey Bennett....	252	31.13	15	64.41
Harford	Frederick Redding..	229	28.58	16	61.36
Garrett	Emmons Warwick..	289	22.74	23	59.09
Cecil	Robert Reynolds...	202	24.45	17	55.81
Washington	John A. Martin....	195	16.80	25	54.31
Queen Anne's....	Louis Scott.....	225	21.40	19	52.95
Prince George's..	John Berberick....	228	25.58	10	50.60
Charles	Edgar Haden.....	232	22.80	12	48.21
St. Mary's.....	Donovan Bohanan..	215	24.62	9	48.08
Howard	Edgar W. Smith....	282	11.45	25	43.17
Baltimore.....	Wilbur Pierce.....	250	21.10	7	40.49
Anne Arundel...	Emmerson Deal....	197	17.09	8	37.77

NOTE.—Based on October price of 20 cents per pound live weight. Labor charge at 10 cents per hour, according to uniform rule of U. S. Dept. of Agriculture.

County Winners in the Corn Club Contest.

County	Name of Boy	1 acre bu. yield shel'd corn	Net profit	Exhibit score	Story grades	%
Kent	Arthur L. Harris...	112.24	\$161.18	15	15	99.76
Howard	Clarence Davis.....	104.00	162.50	13	13	93.07
Montgomery .	M. Magruder.....	90.07	127.27	12	12	79.6
Harford	Mack Scarborough..	102.85	160.58	0	10	76.7
St. Marys....	J. M. Mattingly....	103.00	125.85	0	15	73.19
Talbot	C. S. Brinsfield....	62.87	86.12	14	14	66.31
Carroll	Marion Prough.....	76.24	118.80	0	15	64.07
Queen Anne..	C. L. Goodhand....	90.00	148.30	0	5	64.
Frederick	Millard Wilson.....	75.30	121.15	0	14	63.1
Caroline	Mareese Roe.....	75.77	123.05	0	12.7	62.4
Charles	Earl Moran.....	80.40	131.84	0	7.5	60.4
Prince George	Charles Lammers..	57.025	84.69	11	13	59.96
Cecil	George E. Gifford..	70.45	97.81	0	15	58.1
Baltimore	Earl Bucher.....	84.00	130.30	0	5	58.
Somerset	Wilfred Froelich...	71	108.40	0	10	55.3
Washington ..	Richard Doub.....	76.37	103.05	0	13	53.
Allegany	Lester Hite.....	59.90	95.00	0	14	52.8
Calvert	W. Allen Dorsey...	58.5	87.25	0	14	50.94
Wicomico	Leroy Overton.....	59.00	87.50	0	9	46.17
Worcester ...	William Harris....	51.00	70.17	0	14.5	45.6
Garrett	Jonas Glotfelty....	45.00	82.90	0	14	45.3
Dorchester ...	W. J. Bonner.....	49.95	63.47	0	15	44.1
Anne Arundel	Stephen Duckett....	50.00	71.60	0	10	41.

NOTE.—Based on October selling price at \$1.80 per bushel. Labor charge at 10 cents per hour, according to uniform rule of U. S. Dept. of Agriculture.

County Winners in the Potato Club Contest.

County	Name of boy	Yield ½ acre	Net profit	Exhibit score	Story grade	%
Prince George	R. Leroy Sellner...	56.71	\$78.68	15	12	97.
Worcester ...	John J. Adkins....	51.85	66.07	15	11	87.89
Howard	Eugene Davis.....	44.77	62.11	12	13	80.26
Kent	Thomas Bonwill....	41.66	58.43	13	14	78.66
Washington ..	Richard Renner....	36.10	49.83	14	15	73.46
Caroline	Frank Spinka.....	47.67	63.41	0	14	71.6
Somerset	Norman Landon....	44.44	60.84	0	12	66.
Queen Anne..	J. F. Graham.....	42.78	59.68	0	12	64.5
Anne Arundel	Fawcett Hopkins...	39.7	53.91	0	15	63.5
Garrett	Elwood Wilson....	36	44.75	0	13	55.3
Wicomico	John Bailey.....	40	49.45	0	7.9	54.9
Charles	Clarence Moore....	41	55.37	0	5	54.
Harford	Howard M. Amoss..	32.85	39.97	0	15	53.2
Baltimore	J. J. Winkler.....	33	41.24	0	13.5	52.7
Talbot	Walter McCord....	31.34	37.05	0	14	50.2
Allegany	Carl Browning.....	26	37.50	0	15	47.3
Frederick	Millard Wilson....	28.75	35.31	0	13.5	46.7
Dorchester ...	L. M. Langford....	35.5	37.12	0	7	46.1
St. Marys....	Carroll Davis.....	27	31.15	0	15	45.8
Carroll	Walter Lucas.....	25	32.45	0	10	39.9
Calvert	Oscar Norfolk.....	21	22.18	0	15	38.2
Montgomery ..	Benjamin Allnut...	20.5	24.00	0	13.8	37.3
Cecil	Herman Regan.....	14	5.60	0	5	16.9

NOTE.—Based on October selling price at \$1.54 per bushel. Labor charge at 10 cents per hour, according to uniform rule of U. S. Dept. of Agriculture.

Mr. McHenry has been ably assisted by Messrs. D. J. Howard, D. W. Gray, Stanley E. Day and E. F. Fox as emergency assistants during the past year.

The following summary for boys' club work is submitted by the State Agent:

Number of boys enrolled in club work.....	2,099
Number of club meetings held	808
Number of club members present at meetings.....	11,160
Number of other people present at club meetings.....	28,647
Number of club members completing demonstrations and re- porting results	1,217
Total value of products grown by boys.....	\$56,368.92
Average number bushels corn per acre.....	56.34
Average number bushels potatoes per acre.....	147.928
Average number pounds gain per pig.....	171.5
Number of personal visits to club members by club agents....	5,244
Number miles traveled by Boys' Club Agent.....	6,347
Number miles traveled by Assistant Boys' Club Agents.....	29,927
Number of official letters dictated by State Boys' Club Agent..	4,008
Number of circular letters, instruction sheets and other mis- cellaneous circular materials sent out to club members.....	56,897
Number of stencils cut for circular material.....	507
Total value of products grown by Emergency Club workers....	\$140,579

AGRONOMY EXTENSION WORK.

Mr. F. W. Oldenburg has served as specialist in agronomy during the past year. Coming from the west, it was necessary that he spend some time learning the crop conditions of Maryland. He has made good progress and has rendered satisfactory service to the County Agents in farm crop work. On account of emergency work, the number of farm crop demonstrations were not so great as hoped for, although there is an increase over last year.

The following is the plan of work conducted by the specialist during the year:

1. Answering agronomy correspondence.
2. Writing lessons for Boys' Club work.
3. Writing timely articles for publication.
4. Judging farm crops at local and county shows.
5. Giving talks at Farmers' Institutes, movable schools, Grange meetings and other farmers' meetings.
6. Visiting with county agents to advise with them concerning the plan of agronomy work in their counties in 1918.
7. Visiting farmers to advise with them and the county agent concerning agronomy problems which arise on their farms.
8. In cooperation with the county agents, by demonstrations or otherwise, to bring about the following results:

In communities where no individuals are growing grain of improved varieties of corn, whether sweet or field, wheat or soy beans for seed purposes, to locate individuals who will carefully handle their grain, in order that they may cater to the seed trade and get good seed into the hands of their people.

In communities where this work is established to keep in close touch with it and direct all inquiries for seed to the individuals growing this seed in the various communities.

9. To encourage and assist county agents in establishing new demonstrations in soy beans, hairy vetch, alfalfa and permanent pastures where they are needed.

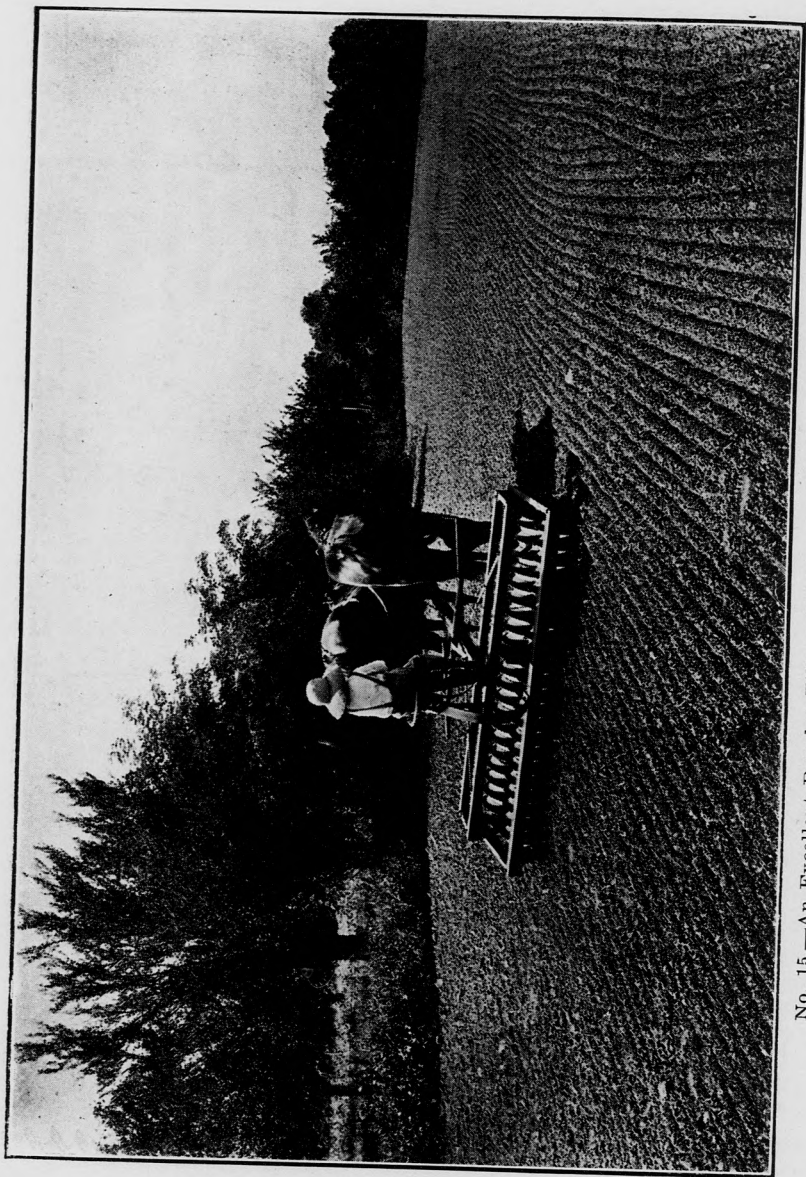
10. To encourage and assist in establishing demonstrations of lime and marl to show the comparative costs or value of the different forms.

11. The war having caused such a great scarcity of potash fertilizers, to encourage the use of acid phosphate in connection with manure or green manure.

12. In cooperation with Mr. Wirt, Farm Machinery Specialist, and the county agents to encourage better methods of cultivation in many parts of the State.

Corn Contest.

Last spring, a State-wide Corn Contest was organized by the Food Administrator, Mr. Edwin G. Baetjer, who offered \$1,750 as prizes for the best yield per acre on a minimum of 25 acres. The conduct of the contest was turned over to the Extension Service. Mr. Oldenburg was delegated to supervise the contest with the County Agents. The measuring of fields and yields in all parts of the State entailed a large amount of work.



No. 15.—An Excellent Popular Tillage Machine at Work in Montgomery County.
—Photographed in Cooperation with States Relations Service.

Following are the awards in the contest:

<i>Name</i>	<i>Yield in field</i>	<i>Standard yield</i>	<i>Prize</i>
Norman Stump (first), Baltimore County.....	85.9	73.6	\$1,000
August Stern & Sons (second), Howard County..	85.4	71.	500
J. Walter Street (third), Harford County.....	75.3	67.3	250

The following seven farmers were close competitors for third place:

Miss Margaret Reese.....	Carroll County
Mr. R. P. Hines.....	Montgomery County
Mr. Charles Nigh.....	Washington County
Mr. Daniel Bay.....	Harford County
Mr. Howard Mann	Howard County
Mr. J. Carroll Ensor.....	Baltimore County
Mr. John M. Dennis.....	Baltimore County

Soy Bean Contest.

The Food Administrator, Mr. Baetjer, offered as a stimulant to the raising of soy beans, prizes amounting to \$50 to growers in each county of the State. Mr. Oldenburg aided in the supervision and awarding of those prizes to farmers.

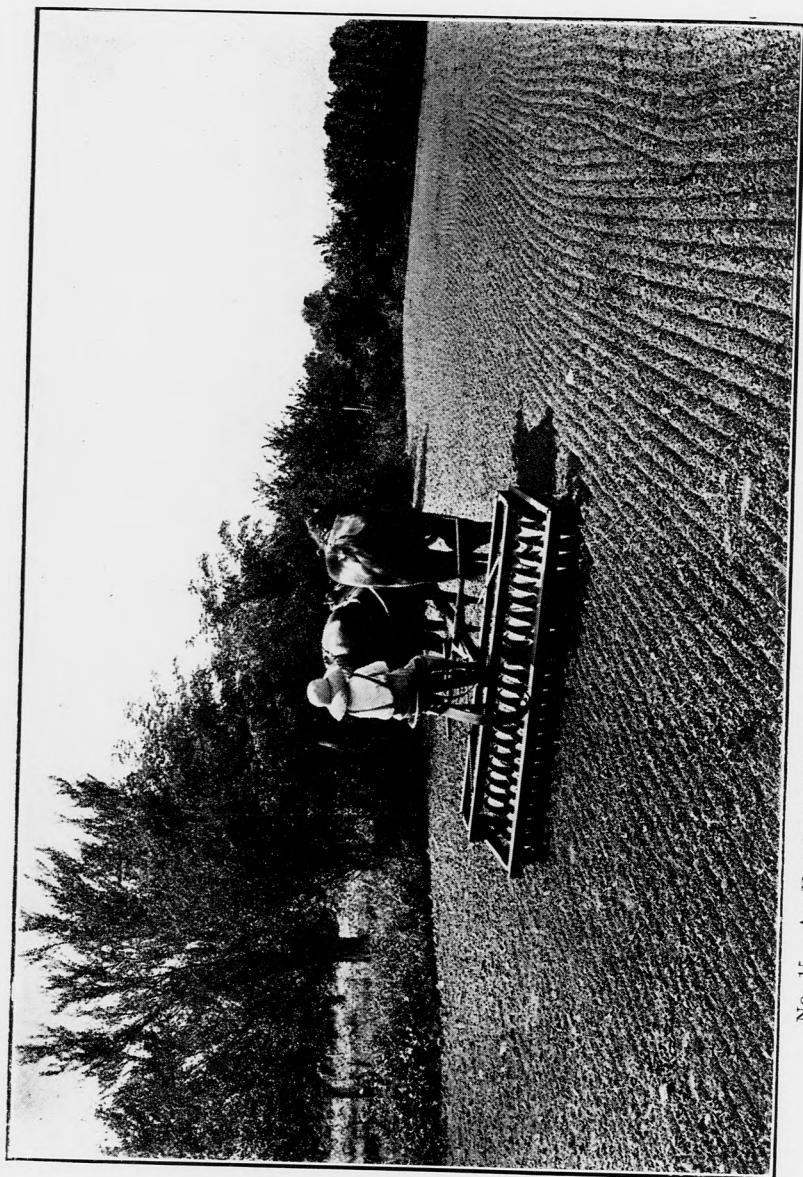
Seed Wheat.

Last year there were many calls for seed wheat. In anticipation of such calls this year the specialist made visits to a large number of farmers raising a good variety of wheat during the summer to determine the condition and the probable amount of seed that would be available for sale.

The seed on twenty farms was inspected and as a result, we learned of 19,680 bushels of good seed that was available for distribution this past fall. The specialist prepared a good exhibit to be used at county fairs, including charts, samples of highest yielding wheats and other features of interest.

Mr. Oldenburg submits the following summary of his work:

Number of addresses delivered at Farmers' Clubs, Movable Schools and Farmers' Institutes	107
Approximate number present at meetings.....	7,373
Number of circulars prepared	4
Number of letters written	500
Number of exhibits judged	13
Number of demonstrators visited in company with the county agents	111
Number of miles traveled, approximately, not counting distance traveled with the county agents.....	14,132



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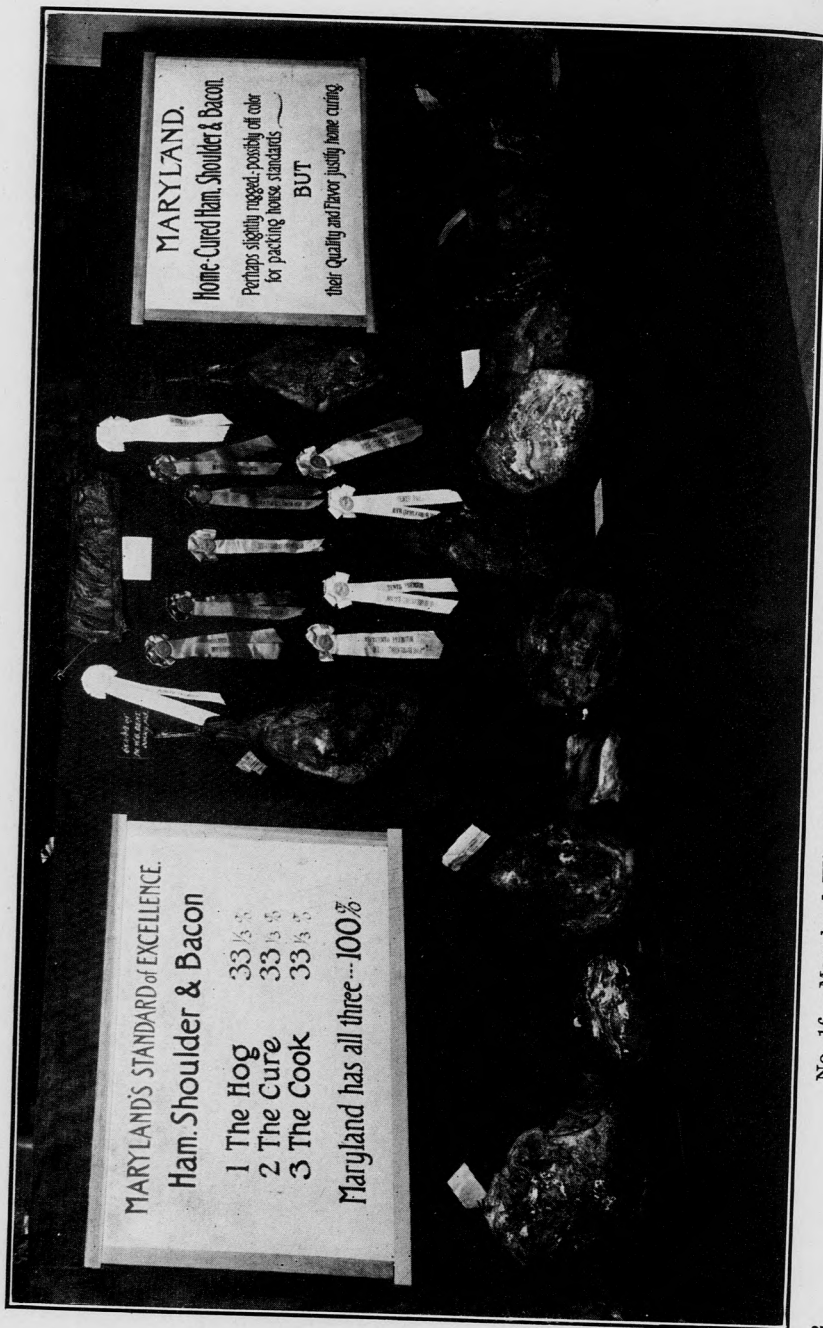
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No. 16.—Maryland Winners at the Ham and Bacon Show, Cedar Rapids, Iowa.

ANIMAL INDUSTRY EXTENSION WORK.

The work of the Specialist in Animal Husbandry, Dr. S. S. Buckley, has been in cooperation with U. S. Bureau of Animal Industry. During the months, January, February and March his entire time was devoted to Farmers Institute work throughout the State during which the topic principally covered was that of proper management for increased pork production as part of the Federal War Program. In all, he made sixty-nine talks to audiences aggregating 4,941 people.

During the remainder of the year he devoted his attention to advising and furthering this program and laid special emphasis on the necessity for providing a plentiful supply of home cured meats and meat products on the various farms. In this connection it is worth pointing out that in an exhibit of home cured meats from Maryland farms which were entered under the supervision of Dr. Buckley at the National Ham and Bacon Show at Cedar Rapids, Iowa, the first week in October, 1918, out of a possible fifteen awards, Maryland meats secured ten including the first prize. Mr. L. Clark of Ellicott City won the first prize, \$200, for the best home cured ham.

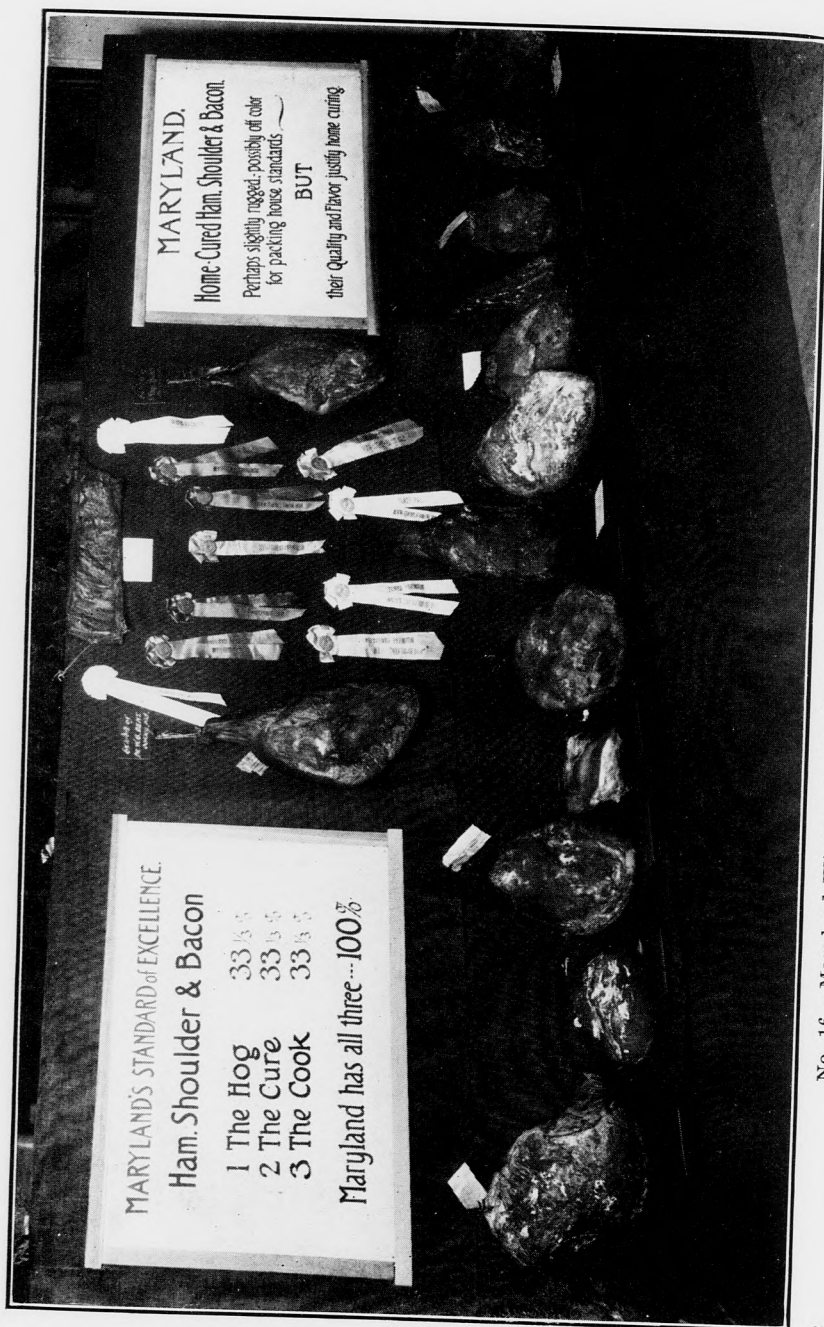
Possibly one of the most important activities of the Animal Husbandman in the extension of hog work in the State has been the emphasis placed upon the matter of grazing crops.

The program which has been used throughout the year for the extension of hog growing during 1918, is given herewith in detail:

1. Proper management and feeding of the bred sow.
2. Proper quarters at farrowing time.
3. Avoidance of losses among young pigs, e. g., injury, chilling, scours and thumps.
4. Proper feeding of the nursing sow.
5. Exercise for the sow and pigs.
6. Late weaning.
7. Early selection for meat hogs and for breeding hogs.
8. Proper feeding and management of each class to maturity.
9. Grazing crops for pigs, shoats and hogs.
10. Finishing meat hogs.
11. Conditioning breeding hogs and gilts.
12. The importance of vigorous boars and proper type.
13. Breeding for early spring and early fall litters.
14. The control of internal and external parasites.
15. The necessity for consistent growth for economic production.
16. The importance of slaughtering or marketing as soon as finished.

The large increase in hog production in the State during the past year is in part due to the campaign conducted by Dr. Buckley in cooperation with the County Agents.

The specialist has aided the boys' club work in promoting the breeding phase of pig club work in which 50 projects are under way and in the fattening phase of pig club work in which 429 projects were fully completed.



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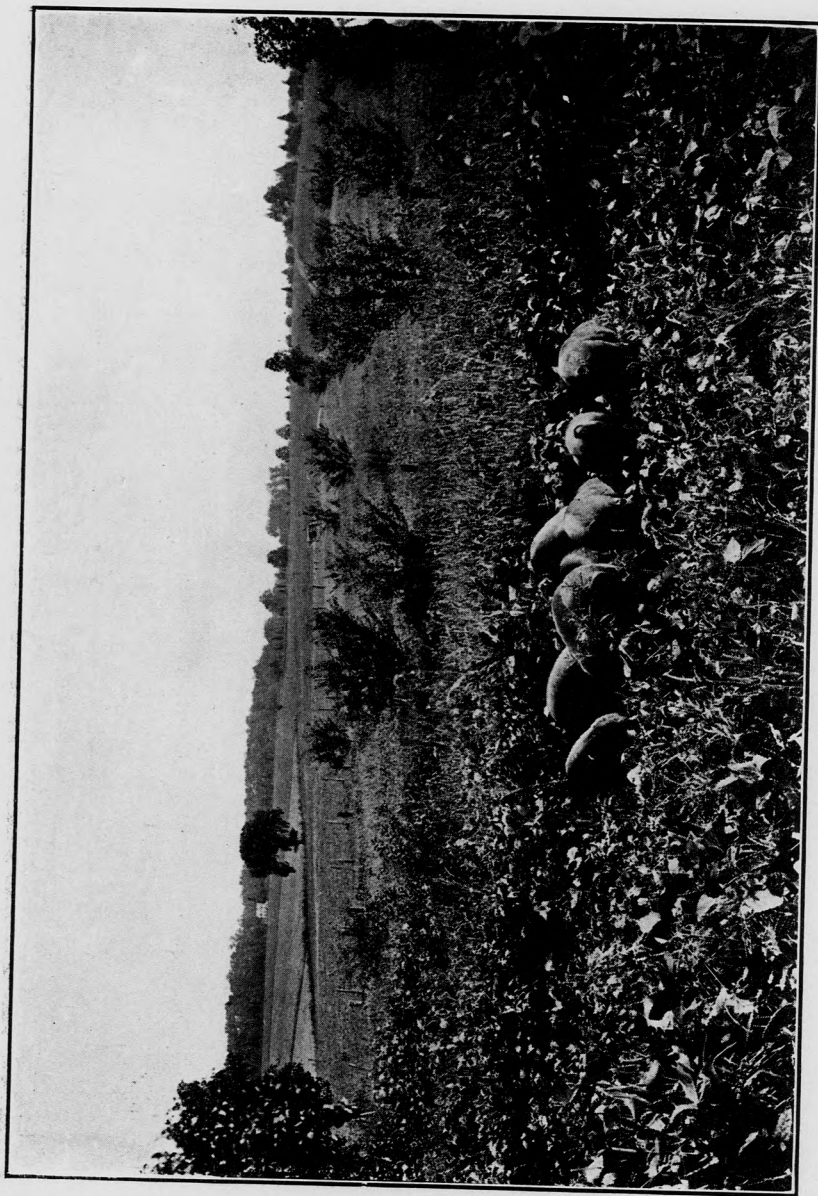
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No. 14.—Demonstration in Hog Pasture.
—Photographed in Cooperation with States Relations Service.

He has also aided in the promotion of eleven county sheep growers' associations in the State and in supplying information regarding the equipment and management of the sheep business as a part of general farm work.

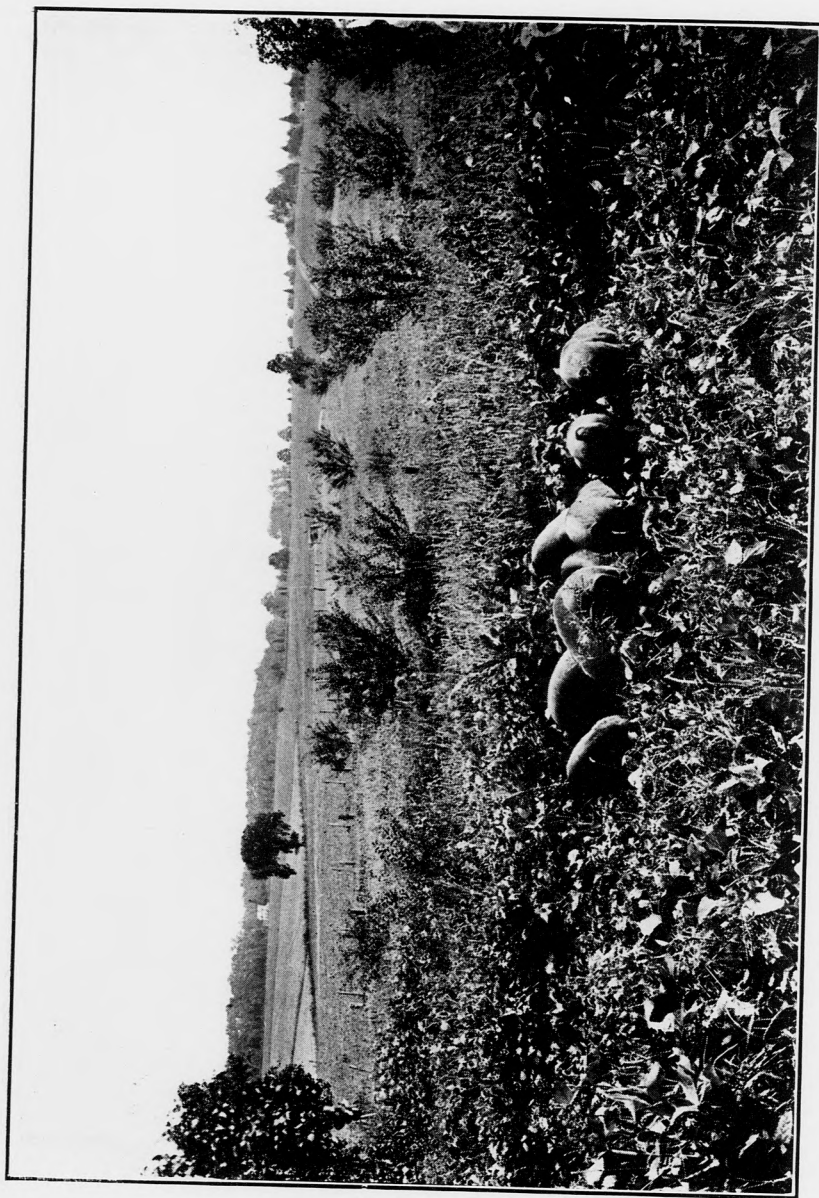
Mr. T. E. McLaughlin was employed July 1st as District Agent and Specialist in Animal Industry. It is proposed that Mr. McLaughlin devote his energies towards promoting the horse, mule and beet cattle industries of the State. At the outset, it was necessary for him to devote available time to dairy organization work and conducting the milk cost survey. During the summer he concluded an investigation, started as County Agent in Harford County, in the conservation of farm produce in the Aberdeen Proving Grounds. At his suggestion 900 acres of wheat and 1,100 acres of hay were grown on the reservation.

A problem of utilizing the manure from the stables at Aberdeen Proving Grounds was then delegated to him. More than 30 tons of manure were being destroyed daily. On account of physical conditions, the farmers near the reservation could not secure the manure. Arrangements were finally made after much effort to have the manure utilized for production purposes, thus preventing the loss by burning this large amount of vegetable matter. Later, a similar problem arose in the disposal of garbage from this place where thousands of people were being fed daily.

Through Mr. McLaughlin's efforts with the County Agents of the milk district supplying Baltimore, a complete organization of the producers was effected. The specialist will, as time permits this year, carry on Extension work in developing the horse and mule industry.

Mr. McLaughlin submits the following summary of his work during the past six months:

Percent of time spent in field	75%
Percent of time spent in office	25%
Number of meetings attended	49
Number of meetings addressed	36
Attendance at meetings.....	4,545
County Agents visited.....	14
Visits to agents.....	33
Farmers visited	319
Dairy organizations formed.....	15
Membership of same.....	709
Mileage, rail	4,647
Mileage, auto	3,236.5
Community exhibits judged.....	4
Number new agents installed.....	4
Letters written, official	358
Letters written, circular	3,200
Projects completed	7



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Hog Cholera Work.

During the past year in cooperation with the Bureau of Animal Industry and the Live stock section of the State Board of Agriculture, four specialists of the bureau with Dr. I. K. Atherton in charge, conducted an intensive campaign with the County Agents for the control of this disease among hogs. The general plan of this work inaugurated last year and continued the past season is the organization of local hog growers' associations, with the initial purpose of saving hogs from exposure and loss from cholera by educational and demonstrational methods and using these organizations for the general work of increased and improved hog production.

When the improvement in breeds and the stimulation of interest seem to justify it, we hope to form a State-wide Hog Growers' Association.

The results of the hog cholera work during the past year have been very successful. From Dr. Atherton's report we find from July 1st to the end of the year, during which time special efforts were made to learn on what farms the disease existed, reports have been received of the presence of hog cholera on 159 farms. Ninety-seven of the outbreaks were considered primary and sixty-two cases of secondary infection.

In the case of new outbreaks, Dr. Atherton reports that where they were able to reach the possible source of infection, it was found that approximately 40% were caused by the feeding of garbage and about 33% due to the introduction of new stock.

The splendid results from this work are shown in the reports of many of the County Agents, that the disease did not spread from the first infection. Growers are cooperating in the control of the disease and the hog industry is on the increase in the State.

It is estimated that the approximate loss from all counties from hog cholera is 1,700 hogs valued at \$34,000 as against an annual loss heretofore from government reports in the State of \$350,000. The estimated increase in hogs in the State is 20%.

The following summary of the work of Dr. Atherton and his associates, Dr. P. J. Cass, Dr. C. C. Cole and Dr. E. J. McLaughlin is given:

The work inaugurated March 15, 1917, was during that year introduced into 11 counties of the State and this year the work has been extended into all of the 23 counties	
Total number of organizations in the State.....	271
Total number membership	4,941
Total number bulletins, circulars, etc., sent to members of Hog Growers' Associations	43,682
Number farms visited in giving demonstrations, warnings regarding outbreaks of hog cholera, instructions relative to control of disease, etc.....	1,052
Number of persons instructed regarding hog cholera control, other than at meetings and demonstrations.....	1,717

Number of persons taught how to administer serum treatment.....	450
Number miles traveled by members of the force during year:	
Rail	1,234
Other conveyances	28,944
Number meetings held during year.....	290
Total attendance	9,080
Number of vaccination demonstrations	51
Number of post-mortems	525

HORTICULTURAL EXTENSION WORK.

Mr. S. B. Shaw has continued the Horticultural Extension Work as reported last year. War conditions have necessarily curtailed interest in home orchards but has emphasized vegetable garden work. Mr. Shaw has cooperated with the specialist in home garden work who was appointed at the beginning of the year to meet the unusual demands.

Commercial Orchards.

Forty field demonstrations in pruning, cultural work, etc., have been held during the year. Special fertilizer demonstration work has been started in twelve commercial orchards to demonstrate the effect of fertilizer in the development of fruit buds and production of fruit. Phosphoric acid is applied in such a way that comparisons can be made between cultivation and non-cultivation, cover and inter crops and leguminous and non-leguminous mulch crops. These demonstrations will extend over a period of years and should serve a most useful purpose to the orchardists of a community. Arrangements have been made to start eight additional demonstrations of this character this spring.

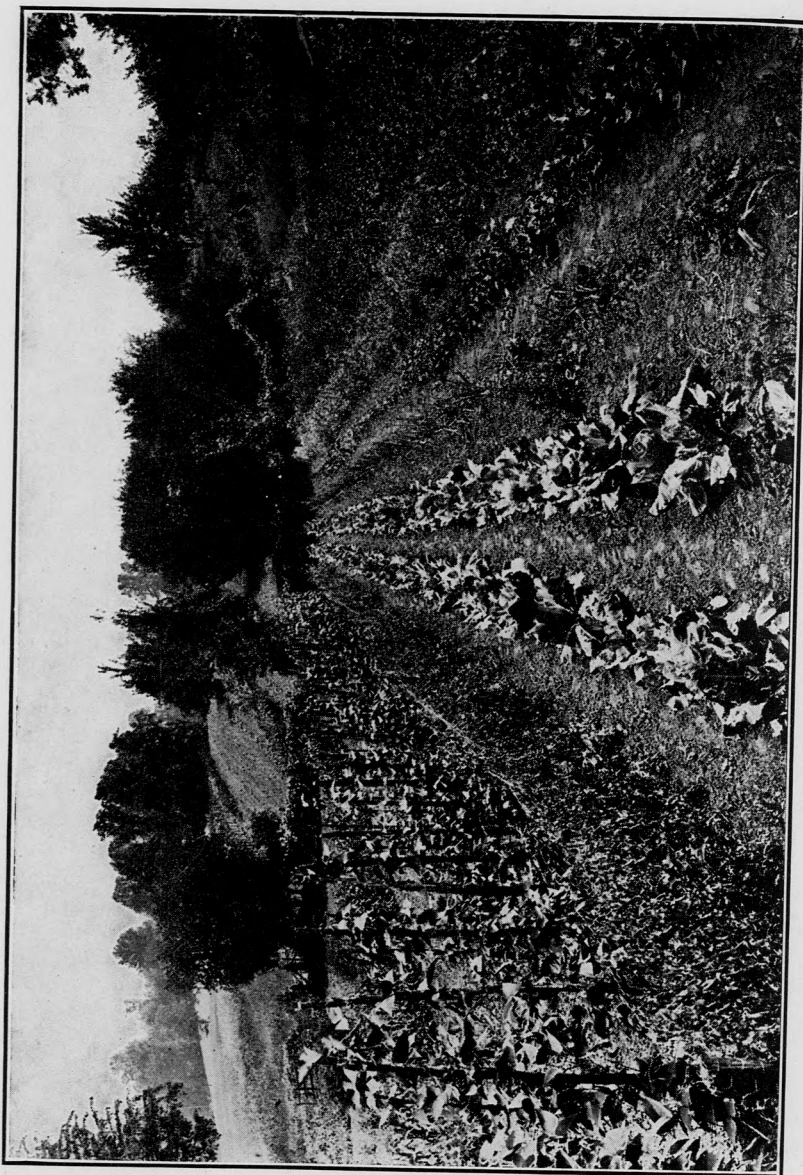
Home Orchards.

The specialist has continued the regular work in directing attention to the utilization of home orchards and conducting demonstrations to show the necessity of pruning, culture and care of the small orchard for profitable results. He cites a profit of \$156 net from a home orchard of $1\frac{1}{2}$ acres.

Mr. Shaw has aided the County Agents in horticultural problems, assisted in the farmers' institutes and the boys' and girls' club work.

The following is a summary of Mr. Shaw's activities:

Conferences attended	17
Short Courses given at College.....	4
Attendance at Short Courses.....	22
Meetings addresses	17
Total attendance	526
Pruning and spraying field-meeting demonstrations conducted.....	40
Attendance	395
Visits to orchard demonstrations	52
Visits to orchards exclusive of demonstrations.....	103
Visits to gardens and truck growers.....	136
Community shows and county fairs attended.....	15
Approximate miles traveled by rail.....	10,000
Publications prepared and issued.....	4



No. 17.—A Prize-Winning Home Garden.

—Photographed in Cooperation with States Relations Service.

Home Garden Work.

By special provision from the Federal Emergency Funds, Mr. B. W. Anspen was appointed Home Garden Specialist, November 1917. Mr. Anspen resigned in May 1918, to take up other work and Mr. W. R. Ballard was appointed May 16, 1918. Mr. Ballard reports that the imperative need for greater food production during the season of 1918, brought into prominent relief the potential possibilities of the home garden.

Vegetables fill an important place in the diet; they are mostly short season crops; they can be grown in limited areas under intensive culture; little capital or equipment is required; backyards and vacant lots furnish available land and leisure hours from office and shop provide the necessary labor. These facts, together with the potent one that products raised are already at the consumer's door at once placed the home garden in a commanding position. That Maryland has taken full advantage of this source of food supply is demonstrated by an increase of from 30 to 50% in the amount of garden products raised.

Many agencies have cooperated in bringing about this magnificent result. The Food Administration, the Women's Section of the Council of Defense, the U. S. Department of Agriculture and the State College through our County, Urban and Home Demonstration Agents and garden specialists and other State and National organizations share in the credit for this accomplishment. The public interest has been stimulated through meetings, publications, prizes, etc., but the thing which did most to put the project across, was the patriotic response which all classes made to the plea for greater food production.

War Gardens.

The State Food Administration through Mr. Edwin G. Baetjer, organized a \$25,000 Win-The-War-Product Contest with \$12,600 of this amount designated as garden prizes. This project was turned over to the Extension Service during the latter part of June and plans were at once devised for carrying it into effect.

The county prizes were awarded by county committees consisting of the County Agent, the Home Demonstration Agent, the Food Administrator and the Chairman of the Women's Council of Defense. The State-wide prizes were judged and awarded by the specialist.

The awarding of the State prizes was based upon the greatest returns per square yard, due consideration being given to conservation and to the completeness and accuracy of the reports. In order to be as fair as possible to each contestant, a standard prize basis adopted and the individual records made to conform to this standard.

Most of the gardens competing, exhibited a high standard of excellence, the average returns per acre for small gardens being \$827.64 and for large gardens, \$546.92. Calculated on the acre basis, the

prize winning small garden for the State gave a return of \$1,427.80 and the prize winning large garden for the State gave a return of \$1,389.40. These figures strikingly illustrate the possibilities of the home garden under intensive culture. Mr. E. W. Monday, of Rockville, Montgomery County, and Mr. L. B. H. Smith, of Frederick County, were the winners respectively of the large and small State-wide garden prizes. The interest aroused by the contest stimulated production in all sections of the State.

Much work was required by the specialist and agents in conducting the garden work and keeping records for the contest.

The following table gives the estimated number and value of the home gardens as reported by Mr. Ballard:

<i>County.</i>	<i>Number.</i>	<i>Value.</i>
Allegany	12,290 (small gardens).....	\$734,400
Baltimore	5,809 (large gardens).....	1,841,600
Calvert	1,500	75,000
Caroline	1,000	20,000
Carroll	6,000	35,000
Cecil	2,500	50,000
Charles	4,306	430,000
Dorchester	3,425	35,000
Garrett	3,000	75,000
Harford	2,500	250,000
Howard	3,000	195,000
Kent	4,000	400,000
Montgomery	5,000	50,000
Prince George's	3,000	100,000
Queen Anne's	3,000	75,000
St. Mary's	2,500	250,000
Somerset	2,500	60,000
Talbot	2,500	125,000
Washington	15,000	250,000
Wicomico	8,000	400,000
Worcester	3,000	300,000
Baltimore City:		
Back yards	75,000	1,125,000
Vacant lots	395	1,800
School gardens	312	1,500
Park gardens	503	1,000
Total	170,040	\$6,880,900

The estimate for some counties may appear to be out of proportion to those of the other counties, yet, the average of about \$40 per garden is undoubtedly a very conservative figure for this period of high prices.

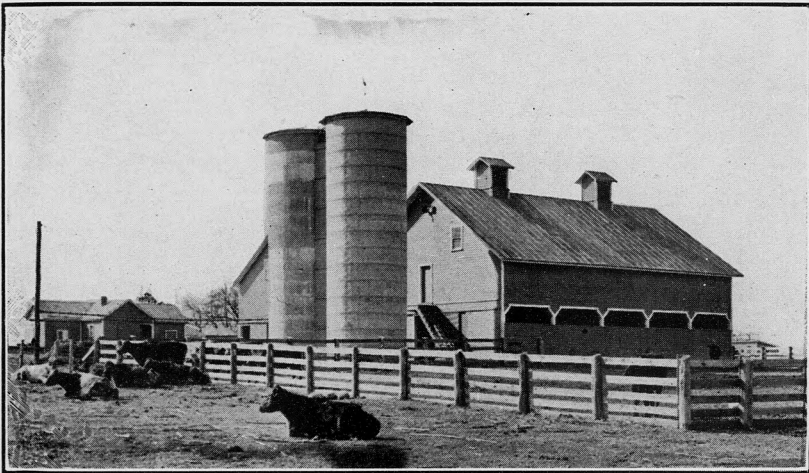
Mr. Ballard submits the following summary of his work:

Number of addresses delivered	6
Number present at meetings.....	526
Number of visits to agents	72
Number of visits to gardens	209
Number of miscellaneous visits	31
Number of exhibits judged	11
Number of miles traveled	6,053

DAIRY EXTENSION WORK.

Mr. G. E. Wolcott, Specialist in Dairy Husbandry, continues to conduct our dairy extension work in cooperation with the Dairy Division of the U. S. Department of Agriculture. Mr. Wolcott submits the following regarding the dairy situation in the State:

Maryland is situated close to markets that are constantly demanding more and more milk and dairy products. This demand will increase when the real value of milk as a food becomes better known. The counties adjacent to Baltimore have long been the source of supply for this city, but the shipment of milk to Philadelphia from the northern counties of the Eastern Shore was not begun extensively until about five years ago, when Philadelphia dealers began to build cooling plants along the branches of the Pennsylvania Railroad. In June some of these plants were handling as high as 14,000 pounds of milk daily.



No. 18.—Typical Maryland Dairy Buildings.

The milk producers in these counties are to some extent tenants and depend largely on pasture in summer and grain and corn stover in winter as feeds for their herds. However, conditions are improving and more interest is being shown in better stock as evidenced by the organization of four cow testing associations and one bull club.

The problem in Maryland is to improve the stock by record keeping and the use of the pure bred bull and to reduce the cost of production by the growing of legumes and better methods of feeding. A large number of dairymen have asked for the accredited herd test for tuberculosis, and in general the sanitary conditions are improving.

Cow Testing Associations.

The value of the cow testing association as a means of herd improvement and economy of production has been thoroughly demonstrated to Maryland dairymen. For the last year, it has been impossible to locate competent testers and the number of cow testing associations in operation has decreased. In the spring of 1917, nine cow testing associations were in operation; two others were ready to begin testing, and at least five more could have been organized if a sufficient number of testers had been available. At present, five associations are in operation. The others have discontinued because of failure to locate testers.

Herd Records—Bull Associations.

Daily weights of production are being kept by a number of dairymen in different sections of the State. This practice enables the dairymen to weed out unprofitable cows.

The high cost of feeds and labor have impressed the dairymen with the necessity of a higher and more economical production. They are realizing that the pure bred bull with record making ancestors is an important factor in developing a high producing herd, and that the bull should not be sold until his value as a breeder is known. The New Windsor Guernsey Breeders' Company now own six bulls. The records of the bull clubs are kept by the testers. The value of the pure bred bull is becoming more evident each year.

Concrete Silos, Barns, Milk Houses, etc.

The specialist has rendered assistance to County Agents and farmers in building of silos, dairy barns, milk houses, etc. Special dairy work at county fairs, schools, etc., has been conducted. An exhibit showing the value of milk and other dairy products as foods, was arranged by Mr. Wolcott at a food show staged by the Women's Civic League in Baltimore. An exhibit was also staged at the Armory in connection with the Southern State Exposition.

Milk Cost Survey.

Mr. Wolcott aided in the conduct of the milk cost survey for the week of December 25th, 1917, and also for a similar survey conducted by the Service for the week of August 18th-25th, 1918. Much time was spent in collecting, compiling and verifying data for the report in the survey.

He has also aided in the organization of the Dairymen of the State. One cow testing association was organized in cooperation with P. A. Hauver of Frederick County. One bull club was organized in Kent County in cooperation with L. L. Burrell and Specialists from

the Dairy Division. There are five members. The cost of the three bulls owned by the association was \$850. Two of them from dams with records of 600 pounds of butter fat per year. The third bull is from a dam with a large seven-day record and is of the same breeding as the others. The object is to line breed.

A milk exhibit was placed in the Lexington Building, Baltimore, for the War Food Bureau.

A dairy products exhibit was placed in the Fifth Regiment Armory at the meeting of the Southern Commercial Congress.

Instructions in record keeping were given three boys at the Union Bridge High School.

The specialist submits the following summary of his work:

Meetings.

<i>Kind.</i>	<i>Number attended.</i>	<i>Number addressed.</i>
Cow Testing Association.....	4	37
Bull Club	2	17
Local Dairymen	7	413
Local Farmers' Institutes	25	1,510
State Dairymen	2	300
Short Course	4	18
Community Club	5	208
	49	2,503
Total number farm visits.....	239	

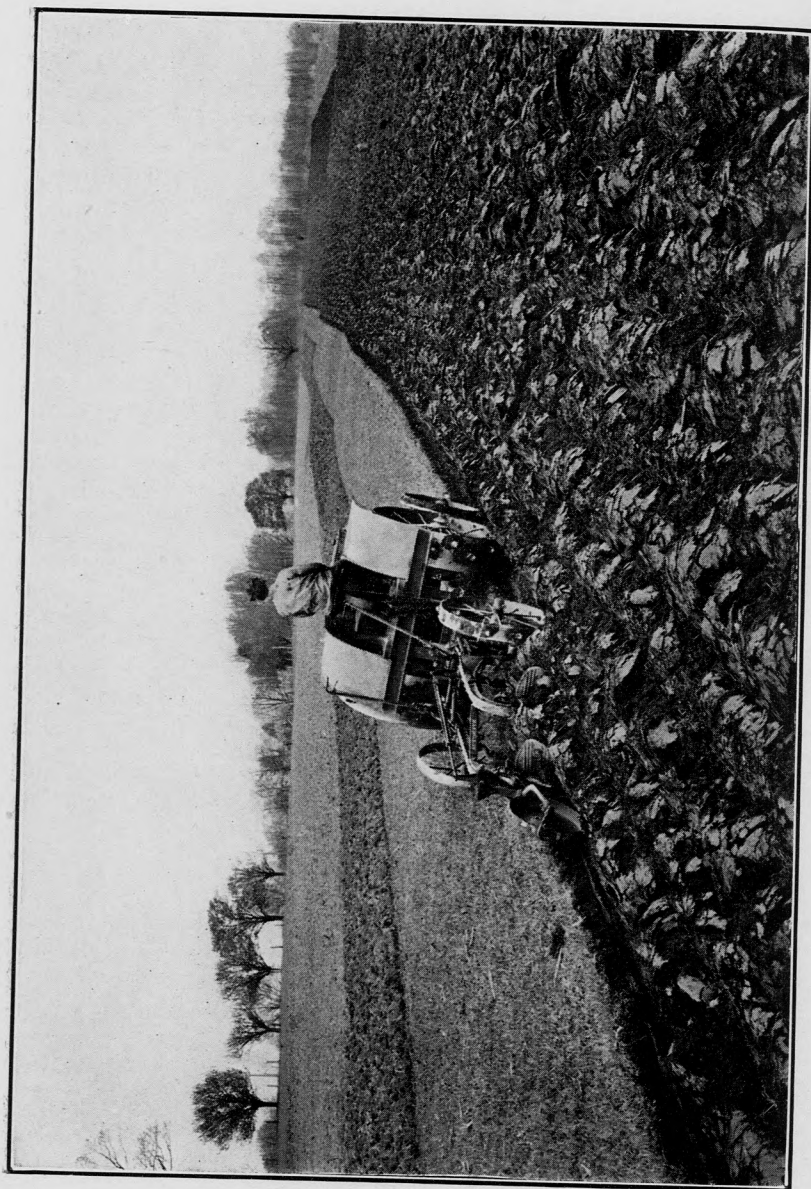
FARM MACHINERY EXTENSION WORK.

In May 1918, Mr. F. A. Wirt was employed as specialist in farm machinery. Prior to this time, we were able to render only very limited service to our agents and to the farmers in this important work.

Remarkable progress has been made in the past six months. War conditions and the shortage of farm labor have greatly emphasized the need of labor-saving machinery. Farmers cast aside their former preconceived ideas of modern labor-saving machinery and purchased in considerable quantities some of the very latest implements. Over fifty per cent. of Maryland's tractors were purchased in 1918, and over thirty-five per cent. were purchased in 1917; consequently, a tremendous interest in tractors and power farming methods was widespread.

It was fortunate that the Service was financially able to inaugurate this work at a time when it was peculiarly needed. As a result of Mr. Wirt's earnest efforts, this Service has established a record, for such a short period of activity, in demonstrating the use of power machinery, in promoting cooperation between implement manufacturers, dealers and farmers, and rendering service to the owners of tractors and other kinds of power machinery.

In emphasizing the need and use of better farm machinery, the policy has been to utilize all agencies directly involved, including the Implement Branch Houses, dealers, agents and farmers.



No. 19.—A Tractor Demonstrator.

—Photographed in Cooperation with States Relations Service.

Tractor Demonstrations.

Mr. Wirt reports that the intense interest in tractor machinery made it advisable to hold tractor demonstrations in various parts of the State. Five State demonstrations were held, with the total attendance of 9,600 with an average of eight makes of tractors operating. In addition to these, numerous local demonstrations were held at county fairs. The farmers in almost every section of the State, where tractors can be used to advantage, have had an opportunity to see tractors at work. Undoubtedly the large sale of tractors in 1918 is due partly to so many demonstrations. Inasmuch as tractors are now so well scattered throughout Maryland, it may be possible that fewer demonstrations will be necessary in 1919. The State demonstrations were uniformly successful. The least successful were those demonstrations where economical tests were put on contrary to the advice given by the Extension Service. This will always hold true because it takes a large force of experienced agricultural engineers to conduct an economical demonstration in which all tractors receive a square deal.

Tractor Investigation.

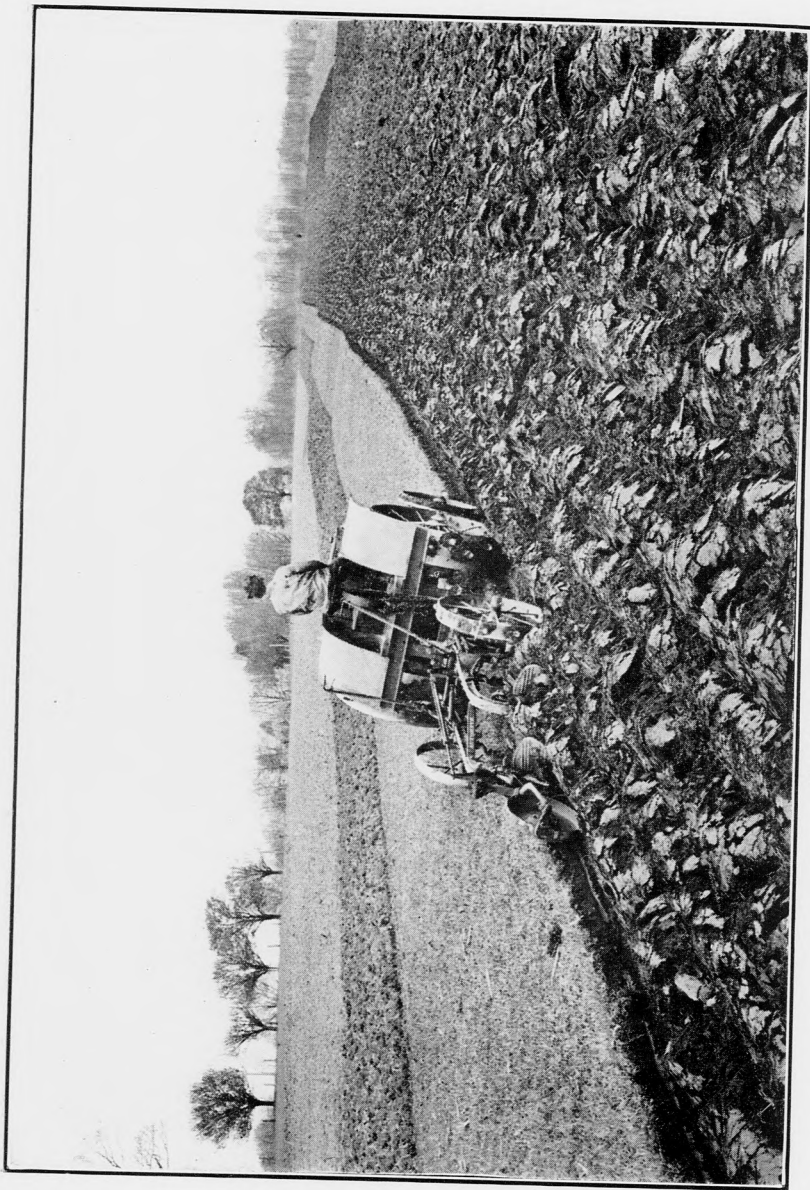
The demand for information on tractors made it advisable to obtain the experience of tractor users. 565 names were obtained from the County Agents, Implement Dealers and Branch Houses. Two letters were sent to these men, and over 250 replies were received, giving detailed information on the causes of success and failures, cost of using and other factors affecting the successful use of the machinery. The data obtained has been extremely valuable. While it has taken much time to collect and summarize, yet, it has been worth every effort expended. This information was given at the Farm Machinery Meeting of the Maryland Agricultural Society, and will be presented at the eleven tractor schools. As soon as possible, this material will be published.

Over sixteen tractor owners were visited in various parts of the State in the interest of this investigation, and to obtain first-hand knowledge of the condition under which tractors were used.

Tractor Prizes.

During the summer, prizes of \$25.00, \$20.00 and \$15.00 respectively, were offered by the Maryland Agricultural Society for the three best reports written by tractor owners. The reports were graded on the following basis:

- | | |
|---|------------|
| 1. Saving of man-power accomplished by using a tractor..... | 20 points. |
| 2. Saving of horse-power accomplished by using a tractor.... | 15 points. |
| 3. Cost of using tractors (special blanks for keeping records supplied by the Extension Service)..... | 20 points. |
| 4. Extent of tractor use for other work besides plowing..... | 15 points. |



No. 19.—A Tractor Demonstrator.

—Photographed in Cooperation with State Fisheries Service.

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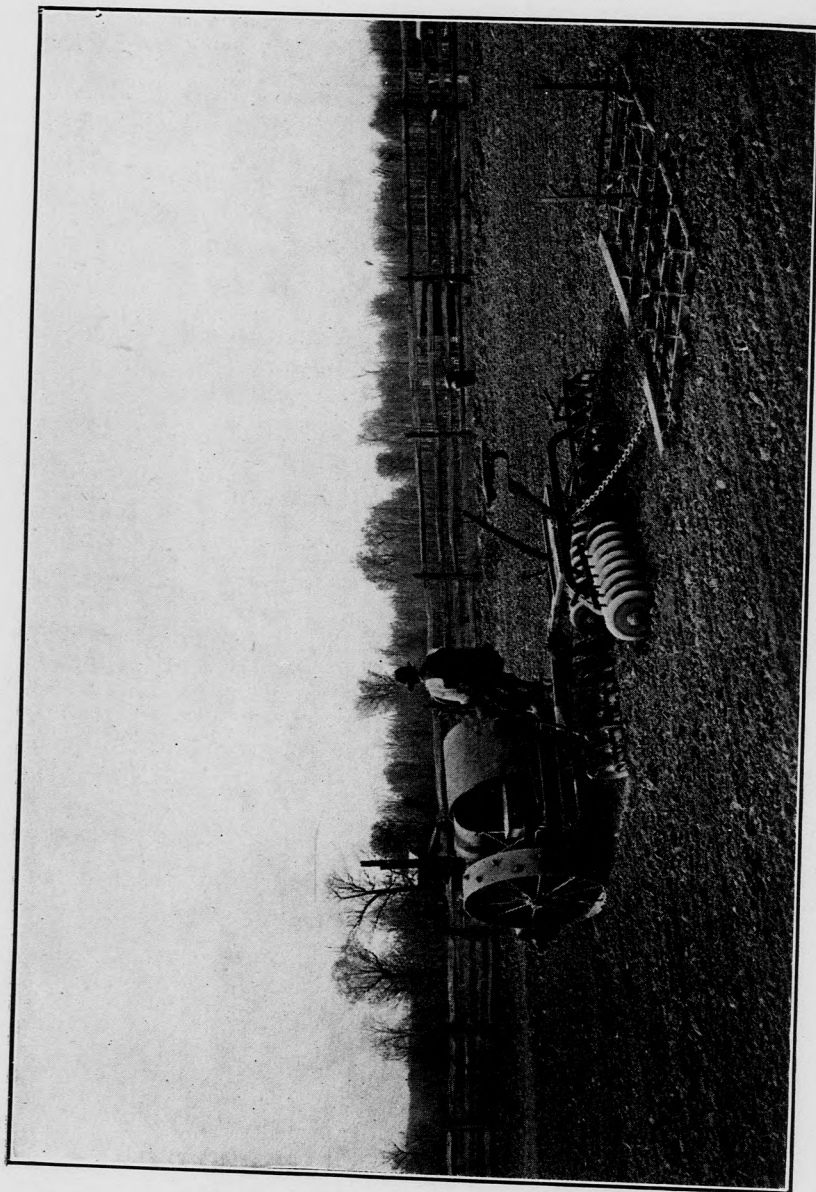
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| 4. Extent of tractor use for other work besides plowing..... | 15 points. |



No. 20.—Maryland Tractor at Work.

—Photographed in Cooperation with States Relations Service.

5. Effect of proper use of tractors on crop yields.....	20 points
6. Owner's opinion as to practicability of tractor in locality in which tractor is used with a statement as to size of machine recommended	10 points
	100 points

Fourteen reports were received. Mr. L. Balderson, of Colora, Md., won first prize, Mr. Sydney Karr, of Hancock, Md., won second prize and Mr. Herbert Paul, of Elkton, Md., won the third prize. All reports were especially good and contained much valuable information. The first and second prize reports were read at the farmers' session of the Maryland Agricultural Society during Maryland Week in Baltimore.

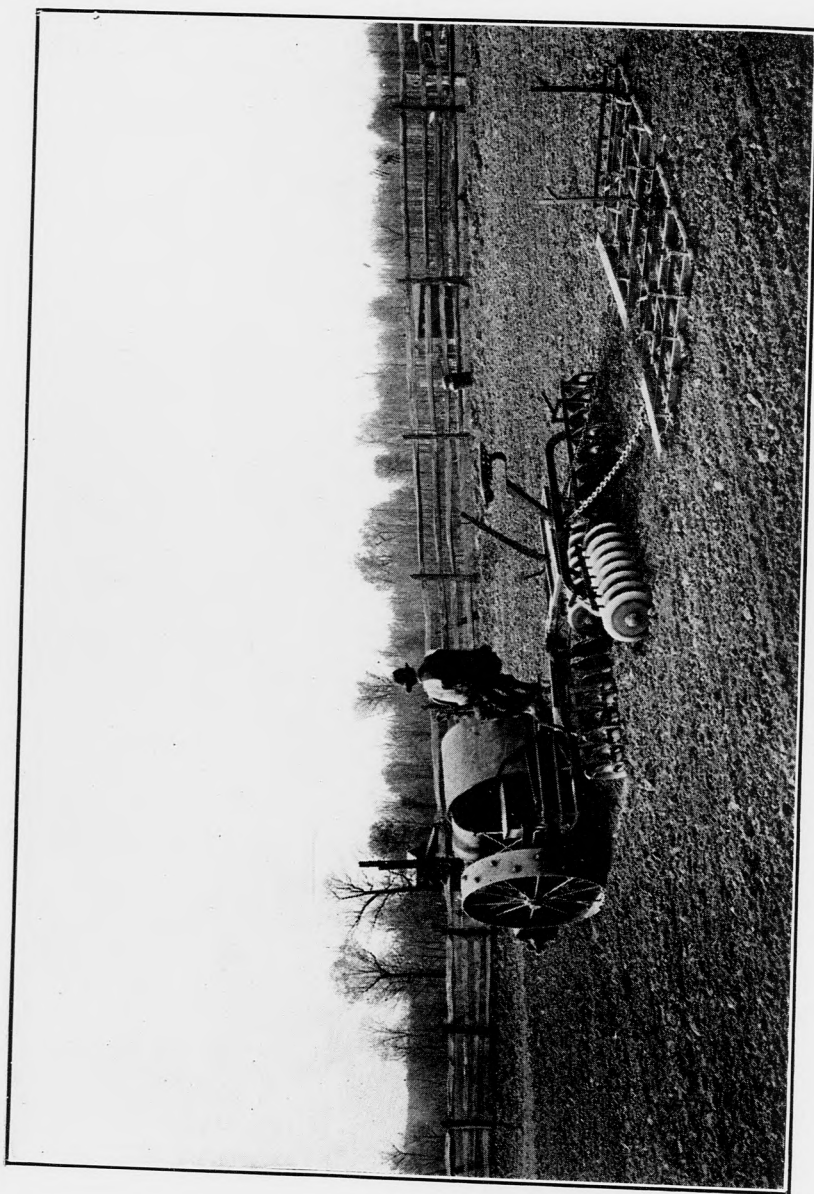
State Tractors.

As previously mentioned, the State Council of Defense through our Service operated nine tractors in the following counties: Baltimore, Cecil, Frederick, Harford, Kent and St. Mary's. Mr. Wirt devoted a large amount of his time in the supervision of those machines. Later he was assisted by Mr. W. H. Cairnes. While the machines were not operated as a financial success, the moral effect and demonstration of the use of the tractor has had a tremendous effect. More than 500 tractors have been purchased by the farmers in the State during the past year and a half. Much difficulty was experienced in securing competent operators. From the standpoint of crop production and tractor demonstrations, these tractors were well worth while.

Tractor Schools.

Successful tractor operation today, depends more upon the operator than upon the machine. This fact has been brought out forcibly by every investigation by agricultural agencies. Inasmuch as tremendous progress is being made in the better use of labor-saving machinery including tractors, a good market has existed and will exist for gas tractors. Such machines are expensive and in order to get the best use possible, the Extension Service desires to give tractor owners, tractor operators and prospective tractor owners, information by means of eleven three-day tractor schools. The dates on which these schools will be held, with the program, is given as follows:

Westminster	Dec. 18, 19, 20	Princess Anne.....	Feb. 4, 5, 6
Ellicott City.....	Jan. 7, 8, 9	Leonardtown	Feb. 11, 12, 13
Elkton	Jan. 14, 15, 16	Rockville	Feb. 18, 19, 20
Chestertown	Jan. 21, 22, 23	Annapolis	Feb. 24, 25, 26
Easton	Jan. 27, 28, 29	La Plata.....	Feb. 27, 28, Mar. 1
Cambridge.....	Jan. 30, 31, Feb. 1		



No. 20.—Maryland Tractor at Work.
—Photographed in Cooperation with State Reclamation Service.

5. Effect of proper use of tractors on crop yields.....	20 points
6. Owner's opinion as to practicability of tractor in locality in which tractor is used with a statement as to size of machine recommended	10 points
	100 points

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Cambridge.....	Jan. 30, 31, Feb. 1		

THREE-DAY PROGRAM.

Tractor—

- Motor Principles, operation, adjustment.
- Cooling System..... Use and care.
- Fuels and Carburetion... Comparison of fuels and use; carburetor adjustment.
- Ignition Kinds, troubles, remedies, adjustment and care.
- Lighting System..... Methods used.
- Tractor Chassis..... Frame, transmission, gears, clutch, adjustment and care.
- Starting How to start a new tractor.
- Care of a Tractor..... Daily, weekly, seasonal, details.
- Lubrication Lubricants—Oiling systems, adjustment and care.

Tractor Equipment—

- Plows and Plowing..... Operation, adjustment and care; methods of laying out fields.
- Other Tractors..... Drawn machinery and hitches.
- Effect of Grades..... Use of a tractor on hilly farms.
- Belt-Driven Machinery.... Using tractor for belt work.

Management—

- Influence of tractor on farm management.
- Draft test of tractor plow in the field if weather conditions permit.
- Cost of operating tractor. (Data furnished by Maryland Tractor owners.)

Cooperation With Implement Dealers.

The specialist has visited all implement branch houses in our territory and received cordial cooperation in the promotion of the work as a whole, throughout the State. The implement dealer in all sections has likewise cooperated in our plan to establish a closer cooperation with the farmer. At the call of the Extension Service, a very successful meeting of the implement dealers was held in Baltimore, December 11, 1918, in conjunction with the Maryland Agricultural Society. A joint meeting of the society with tractor dealers and farmers who own tractors was held with gratifying results.

On the whole, the Extension Service, even in this short period, has launched the farm machinery extension work in cooperation with the County Agents upon a broad, cooperative and comprehensive basis. There is now need for two or more men to meet the demands for assistance in this important field.

Mr. Wirt has made 931 visits to agents, farmers and others, and traveled about 6,526 miles since June 1, 1918.

POULTRY EXTENSION WORK.

Mr. H. W. Rickey, specialist in charge of this work, reports that the aim has been to bring before the farmers and poultry keepers, the importance of poultry keeping as a profitable branch of farming activities, and to show the value of and necessity for using better methods in the management of the farm flocks by coming in per-

sonal contact with those interested in poultry keeping, by giving practical, and well defined instruction, based upon well established scientific principles and practical experience, and by proving through actual demonstrations in various parts of the State the value of such instruction.

During the winter of 1917-1918, fifteen successful demonstrations in winter egg production were carried on under the direction of the specialist in cooperation with the County Agents. More than forty promised to undertake the work but for various reasons only fifteen completed the work.

The demonstrators followed instructions as to mode and method of feeding and of caring for the fowls and agreed to make weekly reports. These reports included daily and weekly production, the amounts, kinds and proportions of the different feeds used, the value of the eggs produced, the cost of food and the profits and losses. The results of these demonstrations established their value as a vital part of poultry extension work. Successful demonstrations will have a good influence on the building up of the poultry industry in the neighborhood where they are conducted and our aim is to have such work going in widely separate communities.

While seemingly local and restricted to the production of eggs in winter, this work is but the starting point for the development of the poultry industry in all sections of the State. More than sixty demonstrators in twenty counties are carrying on this work this winter with gratifying results.

In addition to the actual demonstration work, the specialist has given instruction by lectures and practical demonstrations at Farmers' Institutes, Movable Schools, Farmers' Meetings, Public Schools, etc. He has visited many individual farms and poultry plants. He has also greatly aided in the Girls' Poultry Club Work.

Mr. Rickey submits the following summary of his activities:

Total number Farmers' Meetings, Clubs, Granges, etc., addressed.....	17
Attendance	782
Average	46
Total number Institutes and Movable Schools.....	57
Attendance	3,172
Average	56
Total number schools visited in interest of Girls' Poultry Club work..	45
Attendance	1,608
Average	37
Total number schools visited in interest of Boys' Poultry Club work..	7
Attendance	193
Average	32
Total number Short Courses, Girls' Poultry Clubs.....	4
Attendance	300
Average	75
Total meetings	127
Attendance	6,055
Average	50

Total number farmers visited	206
Total number office consultations	22
Total number fairs attended	1
Total number County Agents' Conferences.....	4
Total number Home Demonstration Agents' Conferences	1
Total number of engagements.....	361
Number miles traveled by rail and bus.....	7,365
Have no complete record of miles traveled with County Agents (approximate)	5,000
Nights—Actual travel	50
Nights—Meetings	18
Letters written	567
Letters of inquiry received and answered.....	194
Circular letters	4
Instruction sheets and news items issued.....	12

Poultry Club Work.

The possibilities of poultry club work are so encouraging in the State that through the cooperation of the Poultry Division, Bureau of Animal Industry, U. S. Department of Agriculture, Mr. G. W. Post was assigned to this State in November to devote his entire time in cooperation with Mr. Rickey and the Boys' and Girls' Club Agents to poultry club work.

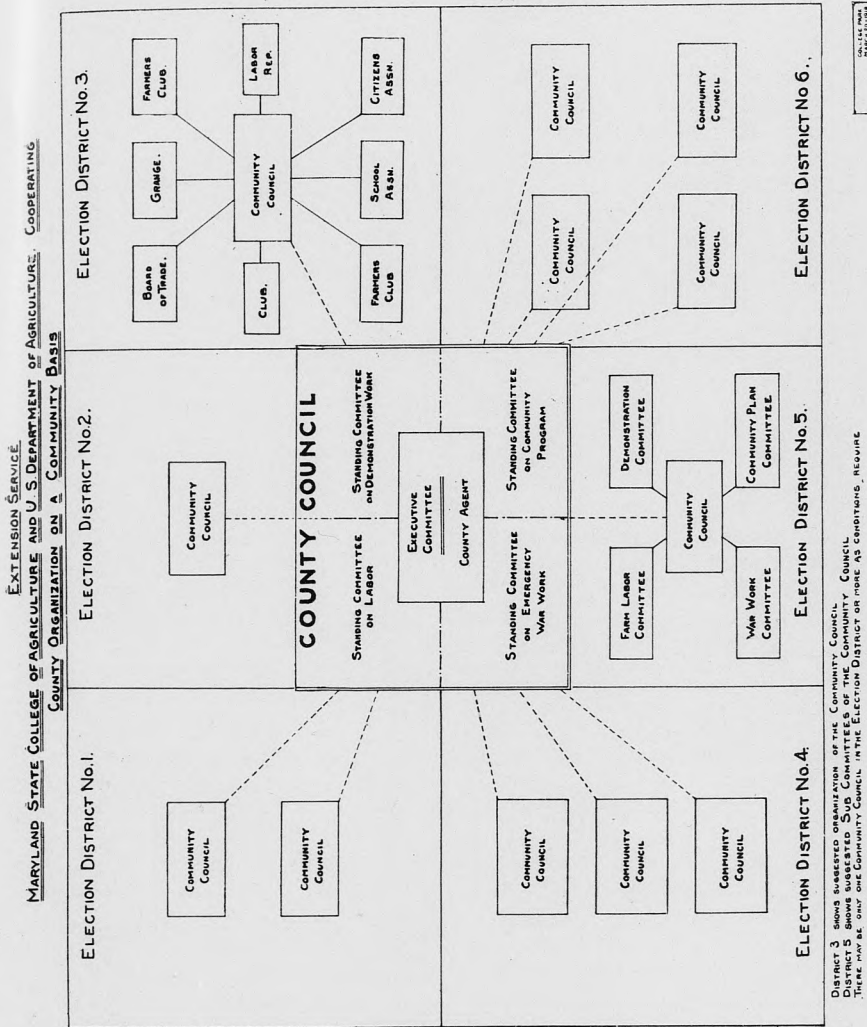
Mr. Post is now making plans to greatly expand our club work and thus render greater service to the girls and boys selecting this work, than has been possible heretofore.

The future of the poultry industry in the State is bright and every effort is being made to increase the industry along practical and substantial lines.

RURAL ORGANIZATION AND MARKETING.

The assistant director, Mr. F. B. Bomberger, in addition to aiding in the administrative work of the Service is in charge of this project. Great progress has marked the organization work the past year. The war conditions made necessary effecting as thorough an organization of the rural community and county as possible. At the approach of the 1918 season, a comprehensive plan for community organization was prepared by Mr. Bomberger and discussed at the agent's conference. Later a blue-print and instructions regarding the plan of work was given all agents. This plan is an elaboration of the previous policy of the Service to develop leadership in the community. In all cases the organization work was carried on in cooperation with other agencies such as the State Council of Defense, State Grange, etc.; the idea being to use the organization or group of organizations which were already formed in the community or to organize the people into such a group or organization which best suited their conditions. Provision was thus made for the different organizations to combine into a community council for the purpose of discussion and action upon matters affecting the general welfare of the community. Likewise the plan provides for the representatives of the

community councils to form a county council where matters pertaining to the general welfare of the county can be acted upon. In all cases the county council serves as a medium through which the County Agents, both men and women, as well as other County agencies can secure action, support and assistance in their work. The accompanying blue-print indicates the plan of organization upon a community basis, followed in this State.



Mr. Bomberger reports very gratifying results from agents who have been able to organize their counties on a community basis and reports indicate that a very much greater volume of demonstration and other work has been accomplished by the agents through the means of these organizations.

While all of our counties may not be said to be organized upon the same plan, it is not an exaggeration to say that, without exception, in every county there is at the end of 1918, an organization covering the whole county which is responsive to the suggestions and plans of the agent.

This is reflected in the cooperation secured by the agents in their efforts to carry on such undertakings as tractor demonstrations, community exhibitions, enrollment of farm labor, enforcement of the Compulsory Work Law, systematic War Work Campaigns, etc. All such undertakings have been accomplished with greater results and less effort because of the existence of the organizations to work with.

The best feature of the organization as it exists is that it has grown to meet public needs and has not been imposed from without. The growth and extension of such organization will be gradual, but it will probably be lasting.

Farm Loan Associations.

The specialist reports that the efforts begun last year to establish National Farm Loan Associations in the several counties of the State have been continued and such organizations have been effected in eleven of the twenty-three counties, with the prospect of increasing the number in a reasonably short time. The farmers in some of the counties are rather slow to effect the establishment of these Farm Loan Associations, but it is his expectation to continue his efforts to create a sentiment favorable to the organization of a Farm Loan Association in every county of the State.

Organization of The Sheep Growers.

During last spring there seemed an opportunity to organize the sheep growers of the State. Accordingly, a call was issued by the Extension Service to all persons in the State interested in this industry, to meet in Baltimore on May 8th, 1918, for the purpose of effecting an organization. Plan of organization with Constitution and By-Laws were prepared by the specialist. A large representative gathering of sheep growers met and organized the Maryland Sheep Growers' Association.

In addition to the State Association, the plan called for the formation of County Associations affiliated therewith. Mr. Bomberger was elected Secretary-Treasurer of the State Association and he, in cooperation with other specialists, especially Dr. S. S. Buckley and the County Agents, have organized ten county associations and plans

are maturing for the formation of six additional local organizations in the near future. As a result of the formation of the State and County Associations, the interest in sheep and wool production is greater than it has been for many years. Good results have been secured in the enforcement of the State-wide Dog Law, enacted by the last legislature.

Arousing public sentiment through organization in all counties will be the best means of eliminating the worthless dog which is a menace to the sheep industry.

Reorganization of Dairymen.

Another organization problem was presented by the difficulties confronting the dairymen of the State. For a number of years there had been in existence the State Dairymen's Association which had as the means of bringing together from time to time, a considerable number of the milk producers of the State for the discussion of various phases of their business. The principal function of the association was educational.

With the outbreak of the war, resulting in a marked increase in the cost of producing milk, the dairymen were confronted with the necessity of securing better prices for their products if they were to be able to continue in the business of producing milk. The dairymen appealed to the college for assistance and the Extension Service was requested to prepare a plan of organization that would meet the present situation. Mr. Bomberger prepared plans for a cooperative selling organization after conference with officials of the Bureaus of Markets, U. S. Department of Agriculture, and having received their endorsement as to the essential soundness of the plans, submitted them to the directors of the Dairymen's Association for their adoption. The plans were agreed to by the directors and in August 1918, the proposed constitution, by-laws, contracts, etc., were adopted by a general meeting of the dairymen in Baltimore.

The new plan of organization completely changes the character of the old association. Membership is restricted to producers of milk; annual dues are dispensed with; the association becomes the selling agent of the members, a commission of one-tenth cent per gallon being charged by the association for marketing the milk of the producers, thereby providing a steady financial income for the association.

More than 1,000 milk producers out of perhaps 1,600 selling on the Baltimore market have joined the organization. A substantial increase in the price of milk was secured last fall and the association plans to carry on educational work not only among the producers of milk with a view of securing larger production at less cost, but also among the consumers in order that they may appreciate the importance and value of milk as a human food.

In a number of other instances assistance has been given by the specialist to County Agents in the organization of growers of certain crops such as tomatoes and other crops. In several counties local tomato growers' associations have been formed. In Wicomico County a truck growers' association is being formed which, when it is in full operation, should be of real service to the growers of perishable crops in standardizing their products and in marketing the same in cooperation.

The Director of Extension has recently addressed the Tri-State Cannery Association and the Tri-State Tomato Growers' Association, and caused to have appointed conference committees of each organization with a view of promoting cooperation between the producers and canner of this important product in the State. Much friction has existed between these interests, especially in arriving at a price for the raw product. The first meeting of the conference committee was held January 29, 1919. This marks the initial meeting of the representatives of canners and growers for the purpose of discussing problems of mutual welfare. It is hoped that our efforts will result in the maintenance and promotion of this industry in this and adjoining States.

Marketing of Farm Products.

In the field of marketing, some progress has been made during the past year. In the spring an agreement was entered into with the College and the Bureau of Markets, U. S. Department of Agriculture, to employ for three months, Mr. P. F. Brookens of the college staff, to study the marketing of certain perishable crops in the several counties of the State. Plans for this study were outlined by Mr. Bomberger in consultation with the department officials. Mr. Bomberger transmits a report by Mr. Brookens on the results of his survey. The report presents in a comprehensive manner a study of methods of marketing perishable farm products of the State. Mr. Brookens points out that the opportunities of the Maryland farmer for disposing advantageously of his produce, especially the perishables, potential in the already well established systems of State roads, waterways and railways connecting the producer with the best central markets of the Eastern coast, all emphasize the disparity between her present development, even when the efficiency at present attained is fully appreciated, and her potentially excellent system of marketing her products, and justify constructive criticism.

Mr. Brookens visited practically all counties and shows that this study was being made during a peculiarly formative period. He summarized the typical methods of marketing as follows: Consignment to buyers in both primary and secondary markets, F. O. B. sales to distant buyers or agents at shipping points, direct sale and delivery to local packers on both the open market and contract basis, direct sale and delivery on local city markets, and the sale both on distant markets and to local packers through growers' cooperative associations.

Standardization.

Standardization of grade and pack was found to vary quite as materially with the method of sale as with the nature of the product itself.

Among the large scale exchanges and associations, standardization has received attention directly in the proportion that they have become strong and successful. The practice of one of our largest exchanges, the grading and standardization of potatoes, one of their principal commodities, has been extended even to production by their patrons of uniform varieties, and, on the average, fourteen out of fifteen cars are now sold F. O. B. on the basis of specified grade rather than on consignment. Another important exchange has ruled out the handling of shipments from small growers on the ground that their miscellaneous lots may injure the sale of an entire carload, and it is pointed out that it is well authenticated that the failure of yet another fruit growers' exchange was due most largely to failure in the matter of standardization. While the principle of standardization on the whole is thus steadily gaining recognition, its adoption in the sale of tomatoes to canneries has made little progress.

Consignment and F. O. B. Sales.

Mr. Brookens points out that the consignment method is on the wane. It is encouraged now chiefly by the commission men who prefer it for the obvious reason that it eliminates the element of risk on their part.

The distrust felt and expressed by growers in regard to consignment of individual shipments is so deep-seated as to be seized upon and capitalized by buyers who perceive a certain resignation on the part of growers to their terms. The consignment method of sale is yielding rapidly to F. O. B. sales. It is obviously in this method, where the sale is consummated before shipment, that standardization has necessarily gone farthest.

The report further discusses the contract system in the sale of tomatoes, sugar, corn and peas to packers and cooperative organizations engaged in the sale of perishable farm products.

Need for Marketing Work.

It is evident from all sides that the proper distribution of our farm products presents an important economic problem that must be investigated from every angle.

Notwithstanding our proximity to large markets, there is much room for improvement in the marketing and distribution of our farm products. It is hoped that this beginning will lead to work upon a broad scale in lessening the difficulties and preventing financial loss, both to the producer, distributor and consumer.

Miscellaneous Work.

Mr. Bomberger aided greatly in various war work campaigns. He arranged the Farmers' Institute schedule and attended many of the Institutes, discussing organization for efficiency in the use of labor, for enforcement of the Compulsory Work Law, for the enrollment of volunteer workers, for conservation of food for the enforcement of the State-wide Dog Law, etc.

Professor C. S. Richardson and Professor Geo. J. Schultz of the College have rendered valuable service to our Extension work and to the agents in aiding in organization work by addresses at various public meetings. These specialists emphasized the need of organization in promoting war activities and urged the conservation and increased production of food products.

Professor Richardson made 35 addresses in various parts of the State, addressing 27,000 people and traveled about 4,500 miles.

EXTENSION WORK IN ENTOMOLOGY.

Mr. E. N. Cory, State Entomologist, had immediate charge of Extension work in Entomology. Messrs. W. C. Travers, O. K. Courtney and C. J. Pierson assisted in the various lines of work conducted. Mr. Cory reports two notable outbreaks of insects requiring attention for extended periods and necessitated the holding of many demonstrations and visits to a number of farms in the infested area. The tomato aphid infested Worcester, Somerset, Wicomico, Dorchester, Talbot, Queen Anne and portions of Anne Arundel and Calvert Counties with great severity. For a time there was much alarm among growers of tomatoes for fear of utter destruction of the plants. Mr. O. K. Courtney was assigned to this State by the Bureau of Entomology, U. S. Dept. of Agriculture, to aid in this emergency work.

The County Agents and the specialists conducted spraying demonstrations for the control of the aphid, which showed decided advantage over those that were not sprayed. Later natural parasites developed and served to control the pest.

The grasshopper outbreak occurred in Frederick, Carroll, Baltimore and Howard Counties and was the worst ever recorded in this State. A series of demonstrations in the use of poison baits were conducted in those counties by the specialists and agents. Mr. Courtney constructed a trap for catching the grasshopper, which proved successful, as several bags of the insects were collected. The primary injury by the grasshoppers was in destroying the young clover fields, attacking corn and other crops.

Dusting Demonstrations.

Dusting demonstrations were conducted in several orchards of the State. The results on the apple dusting were quite satisfactory in

that they showed a marked reduction in the coddling moth and diseases over that found in checks. The peach dusting demonstrations were slightly less effective than the spraying work at the same place. Strawberries dusted three times with a mixture of eighty-five percent. sulfur and fifteen percent. arsenate of lead showed a net profit of one hundred and sixty-three dollars per acre over the check, not treated for the strawberry weevil.

Demonstrations for Control of Curculio and Codling Moth.

While it is impossible to separate economically the work in the control of insects from that of plant diseases in orchards, it was with the primary object of controlling insects that Mr. W. C. Travers undertook demonstrations at a number of orchards on the Eastern Shore during the past year, in cooperation with the Horticulturist and County Agents. It is interesting to note that this work was conducted on large and small orchards with equal success.

The following summary shows the results of this work:

No. of Demonstrations	No. trees	No. applications	Cost	No. baskets	Gross profit
1.....	3	3	\$2.06	29	\$45.69
2.....	1,500	4	481.50	8,536	9,732.80
3.....	1,500	4	218.62	2,800	2,174.57
4.....	1,450	4	114.74	2,000	1,752.66
5.....	3,000	4	437.24	3,500	4,127.82
6.....	300	4	100.00	435	422.50
7.....	1,000	4	365.17	8,314	11,875.83
8.....	16	5	29.82	226	115.18
9.....	550	3	160.00	912	775.00
	9,319	35	\$1,909.15	26,752	\$31,122.05

This work has been highly successful in demonstrating to the large and small grower the possible financial returns by employing modern methods of treatment and culture of fruit trees.

Rat Extermination.

In order to obtain data upon which later campaigns may be based, Mr. C. J. Pierson operating under funds from the Council of Defense under the direction of Mr. Cory. conducted a campaign of demonstrations in Talbot County in which thirteen demonstrations were made with the result that four hundred and twenty-five rats were captured in one month. As high as 108 rats were captured on a single farm. At the rate of \$3.00 per rat, the total amount saved to farmers was \$1,275. The annual rat toll in Talbot County is esti-

mated at \$70,000. Rats destroy annually, thousands of dollars in this State and an effort is being made by Mr. Cory, in cooperation with the agents to conduct a vigorous campaign for their destruction.

Miscellaneous Work.

Mr. Cory has attended and addressed several farmers' meetings and visited many individual farms for the purpose of giving advice.

He was chairman of the committee of our Extension Workers and directed the installation of a splendid State Agricultural Exhibit at the Southern States Exposition in Baltimore, December 8th to 15th. He was ably assisted in this week by Messrs. S. S. Buckley, S. B. Shaw, F. W. Oldenburg, Miss Kellar and others.

The exhibit which represented the agricultural industry of the State was the most conspicuous feature of the show.

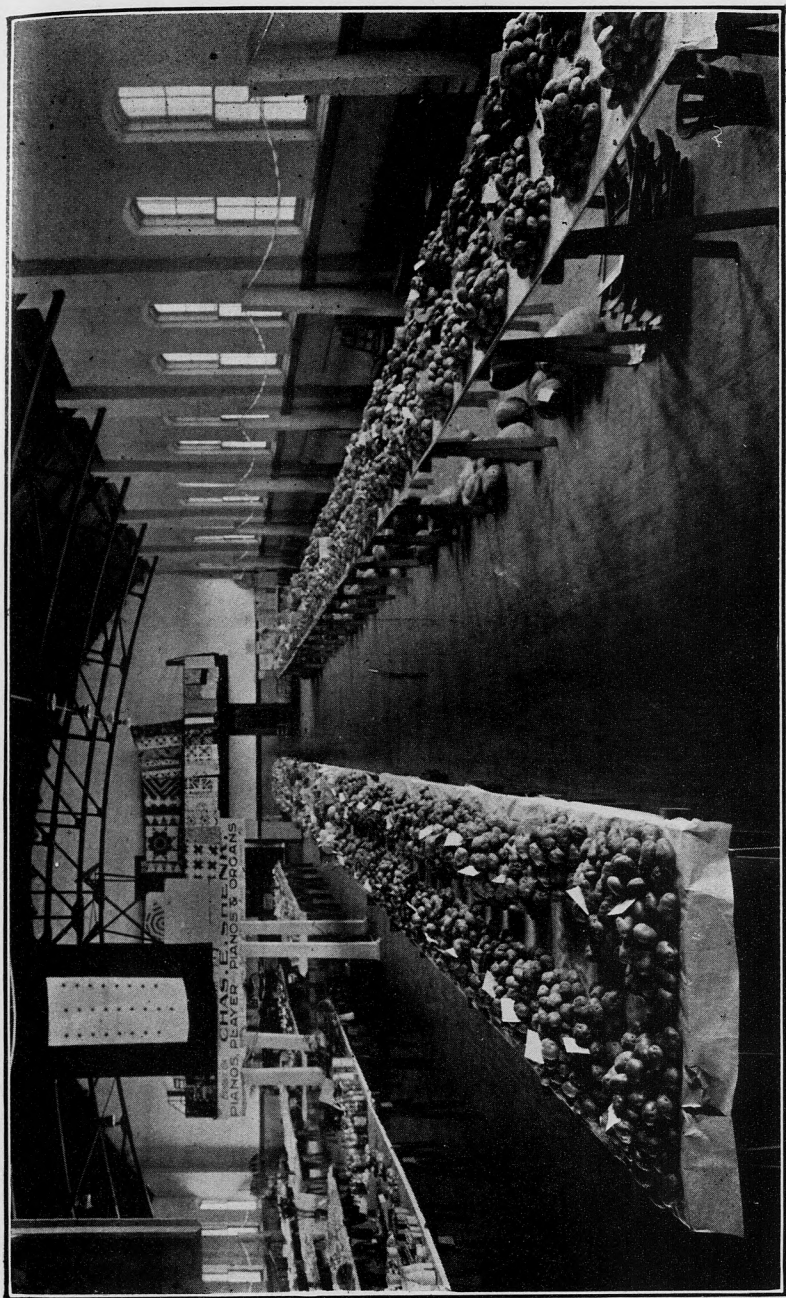
EXTENSION WORK IN PLANT PATHOLOGY.

Mr. C. E. Temple, State Pathologist, is in charge of Extension Work for the control of plant diseases. As a whole, the work has been more extensive during this year than heretofore. Approximately 150 acres of tomatoes were divided up into plots and sprayed one way or another; including unsprayed checks in each case for the control of the Septoria leaf blight; 54 pounds of wilt-resistant tomato seed were distributed free to the growers in cooperation with the County Agents for the purpose of establishing the variety in those sections where the wilt was known to exist; 42 acres of potatoes including practically all of the potatoes grown on 19 farms in the region about Oakland were sprayed for the late blight; approximately 6,000 bushels of wheat were treated for smut; the potatoes on eleven farms were inspected for certification as seed stock.

Mr. Temple was assisted in this work by Mr. C. S. Ridgway, who was assigned to us by the Bureau of Plant Industry, U. S. Dept. of Agriculture, from May 5th until his sad death, December 6th. Messrs. G. H. Rook, J. H. Schreffler, B. H. Wiley and G. E. Henry aided in the cooperative spraying work with the Office of Truck Crop Investigation, Bureau of Plant Industry, U. S. Dept. of Agriculture. Messrs. H. W. Harvey and W. W. Wood both from the office of cereal investigations, Bureau of Plant Industry, assisted three weeks in the wheat treating work, also Mr. Wentz of the College, aided in this work for a few days.

Control of Tomato Diseases.

The spraying work for the control of the leaf blight of tomatoes was directed along two lines, first, to determine the formula which would give the best results and, second, to determine the number of applications that could be applied most economically. Both of these



No. 22.—A Splendid Community Show at Frederick.

tests were carried on extensively, nearly 100 acres being included in the former and 54 in the latter. Plans for carrying on the work were arranged in conference with the officials of the Department of Agriculture. Several formulas were used in these tests. The work is not conclusive and will be continued. Splendid results were secured in the use of wilt resistant tomato seed saved through our efforts last year and distributed through the County Agents to growers for demonstration purposes. In cases where the wilt disease is in the soil, a marked increase in the yield was evident from the wilt resistant plants.

Potato Spraying.

Mr. Temple reports that the potato spraying work in Western Maryland was continued under the direction of Mr. Ridgway. The results from the demonstration work for the control of blight on potatoes were successful in Garrett County and should be the means of inducing all growers to spray potatoes in that region.

Mr. Temple inspected 1,000 bushels of potatoes for certification. The raising of seed potatoes cooperatively in Allegany County has now become an established industry. This has been brought about by the efforts of our Extension Service.

Treating Wheat for Smut.

An extensive campaign was carried on this summer and fall demonstrating the treatment of wheat with formalin to prevent smut in the coming crop. About 6,000 bushels of grain were treated by the specialists and agents.

Miscellaneous Work.

Mr. Ridgway aided in the tomato spraying and conducted a survey of diseases affecting sweet potatoes and peas grown for canning purposes. He was instrumental in showing that the diseases of canning house peas are very severe in Maryland and need investigation. It may be stated that investigational work was started last spring by making several hundred selections of seed from healthy plants in badly infected spots where the root rot disease was prevalent. A part of this selection work was done by Mr. Ridgway. Mr. Ridgway's survey of sweet potato diseases aided to our knowledge of the extent of the distribution of certain sweet potato diseases and he had planned a number of demonstrations for the control of these diseases. It is hoped that this work may be carried on another season.

The untimely death of Mr. Ridgway through an attack of influenza, was a great shock to his many friends.

The following is a summary taken from the brief notes left by Mr. Ridgway:

Number of official calls on demonstrators and others.....	263
Miles traveled by rail	5,000
Miles traveled by auto	1,500
Number demonstrations in spraying potatoes.....	19
Number addresses delivered	4

Mr. Temple submits the following summary of his work during the year, which includes demonstrations conducted with assistance:

Disposition of Time.

Days at office	98½
Days in the field.....	201

Speaking Record.

Number of talks, including lectures and addresses.....	73
Number of persons in attendance.....	8,562
Visits to demonstrators and demonstrations.....	195
Conferences and personal service calls.....	404
Miles traveled by rail	5,976
Miles traveled by auto	7,752
Total miles traveled.....	13,728

Inspection Work.

Nurseries inspected	16
Number of bushels of seed potatoes inspected for certification.....	1,000

Tomato Demonstrations.

Number of wilt resistant tomato demonstrations.....	167
Number of acres of tomatoes divided up into spraying plots as demonstrations and field trials, approximately.....	150

Cereal Work.

Number of bushels of wheat treated for smut (including some help from the U. S. Dept. Agriculture), about.....	6,000
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FARMERS' INSTITUTES, SHORT COURSES.

As mentioned in the first of this report, there seems to be a demand on the part of people for a continuation of the farmers' institute work or one or two-day farmers' meetings. It is believed that the most successful series of institutes that were ever held in the State were conducted last winter. Certainly all meetings were well attended and great interest was manifested. The meetings were addressed almost exclusively by the specialists of the service. Only two outside lecturers were secured for two weeks to enable us to meet engagements.

A total of 71 institutes or farmers' meetings were held in all counties, with a total attendance of about 8,637 farmers and home makers. These meetings furnished an excellent opportunity to present the agricultural war program to the farmers of the State. In all cases the arrangement for meetings was in the hands of the County Agents. The arrangement of the institute schedule was in charge of Mr. Bom-

berger. A few Movable Schools were held but there did not seem to be the demand for neighborhood short courses as for single day meetings.

Correspondence Courses.

On account of war conditions, it has not been possible to secure all the lessons for our correspondence courses. Everyone has been too crowded to prepare the work. It is hoped that this work can be organized and offered to the public this coming year.

MISCELLANEOUS WORK.

Much assistance has been given by men in the various divisions of the college and station.

Prof. W. T. L. Taliaferro has continued his assistance in visiting special farms at our request, aided the agents where possible and judged at a number of community exhibitions. Prof. J. E. Metzger and Dr. A. G. McCall have given the Service valuable assistance in their respective fields or labor, soils and farm crops. Other representatives of the station and college departments have aided in emergency calls when their other duties would permit.

Community Exhibits

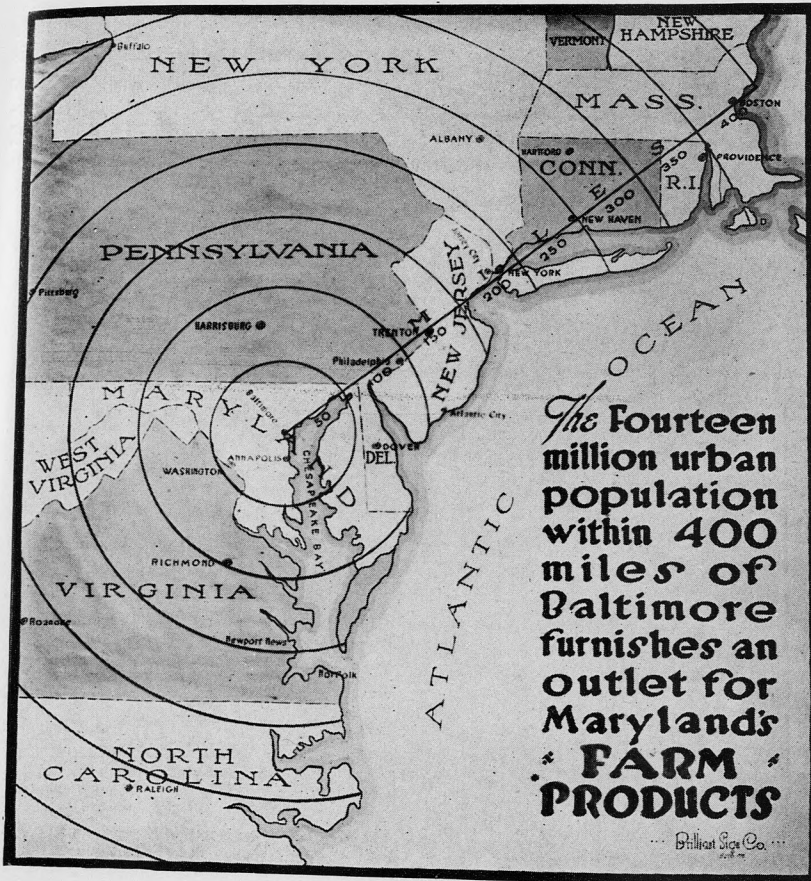
The policy inaugurated by the Maryland Agricultural Society during the war period, of encouraging community exhibits, has proved to be of a great value in arousing public spirit in the rural communities. One hundred dollars was appropriated by the Society to each county to be offered as awards for agricultural exhibits.

A large number of splendid exhibitions have been held in various sections of the State. The influenza epidemic caused the postponement of several shows but in most cases they were held later.

The County Agents in all cases took the initiative in forming local organizations or committees to conduct the community exhibits.

Relations of Specialists and Agents.

The relations of specialists and County Agents both men and women, in this State are interdependent and consequently very satisfactory. From an organization standpoint, the work is conducted jointly and administered uniformly. That is, the agents depend upon the specialists for leadership in their respective fields and the specialists look to the agents to furnish an opportunity to apply the work in practice. Demonstrations are considered as the joint effort of the specialist and agent. The agent is always acquainted with the specialist's activities in a county. Specialists aim to develop their schedules of visits and work well in advance so that the agent has an opportunity to adjust local conditions to permit him to ac-



company the specialist to demonstrations or prepare for such a visit by arranging meetings, etc.

A monthly conference of specialists is held so that plans of work may be discussed well in advance so as to prevent crowding of agents, of a given territory by different specialists.

A very satisfactory working agreement exists between all forces of the Service in the interest of efficiency and cooperation.

Relationship of Representatives From Bureaus and Offices of U. S. Department of Agriculture.

The policy of the Service of dealing with all offices and bureaus of the U. S. Department of Agriculture through the States Relations Service is undoubtedly the only practical means of accepting and extending cooperation to these agencies.

The Service has been greatly aided by the specialists assigned to the State by several of the bureaus. The policy of the Service is that all such representatives shall be administratively under the Director of Extension, who it is needless to point out, desires to co-operate with the chief of the bureau in carrying out any proposed plans. Cooperative projects and agreements are entered into which give proper recognition to the subject matter departments. These representatives are accepted into the organization and given the same privileges and expected to conform to the general policies of the Service while in the State.

THE FUTURE OUTLOOK.

It must be admitted that the war has given a wonderful impetus to extension work. It has demonstrated the necessity of vigorous leadership in every county and in every community. It must be the duty of the Extension Service to maintain and promote this acceleration in Extension activity.

Contemporary history has made evident to all thoughtful people, the dominant place of agricultural science, as well as all phases of pure and applied science in modern life. It is our problem, our responsibility, to convey the results of applied science relating to agriculture to the farmers and home makers and to all people generally in Maryland. With the lessening of emergency calls, there should be an increase in practical demonstrational work with definite results which will convey in indisputable terms to the prejudiced minds, undeniable truths of progressive agriculture. We must reach the skeptical farmer in order to convert him to a belief in the efficiency of applied agricultural science and we must teach the average consumer that the fundamental principles of business must be applied to the farm, as it is applied to industry. In order to maintain agriculture during the coming peace, upon the plane it rightfully deserves to occupy, the farming industry in a large number of sections and individual instances must be modernized. It will be our province to sound the clarion note and demonstrate the applied fact in accomplishing these ends.

In this connection, not the least of our obligations, is to the younger generation. We should see to it that the farm boys and girls are given every possible opportunity for advanced education in agricultural science. Whenever the opportunity presents itself, we should make it our business to encourage and direct young men and young women to college. We must remember that our agricultural future is dependent upon the young men and women who will be trained in the science of agriculture and home making and who will be inspired to remain on the farm to build up the Nation's fundamental industry.

The work of the Extension Service was all important in war and is equally important in peace. For peace, especially economic peace,

is based upon a live and let live policy that breathes satisfaction, equality and justice to all industries.

It is believed that the Service should attempt to inaugurate at least some instruction or lecture work in cities, where practical phases of the agricultural industry, as it affects the consumer or city dweller, could be explained. There is to my mind, as great a need for some phases of agricultural education in the city as there is in the country and it should be the duty of the Service to meet this need. I refer to matters other than backyard gardening and conservation work.

Extension work is in process of standardization in many particulars. We are reaching a large proportion of the Maryland farmers, but not all. We must perfect our methods, increase our efficiency and extend our work so that we can demonstrate our usefulness to all of the 50,000 farmers of Maryland.

Every effort has been made by the Extension forces to aid the institution of which we are a part and to support in proper manner every effort of the U. S. Department of Agriculture, with which we are associated, to develop and promote the great farming interests of this Nation. The future for Extension work in Maryland, presents wonderful possibilities.

CONCLUSION.

I have attempted to give in considerable detail, the work of the Extension Service during the past memorable year. Even this extended report does not adequately record the splendid accomplishments of the Service during the year. While we appreciate our shortcomings yet commendable progress has been made towards the goal of rendering practical service to the farmers and home makers of our State.

A large amount of public funds, both Federal and State, is devoted to the support of this class of work in Maryland. Our responsibility increases in proportion to our opportunity to serve the people of the State. Careful attention is given to the principles governing the expenditure of public funds which must be more circumspect from the standpoint of wise and economical expenditure, based upon definite results, than in the use of private funds.

The policy of the Service is to maintain in a proper manner as permanent a force of capable men and women as is possible. Nothing is so expensive as a constant change of workers. I repeat that I believe, this State, this Institution and this Service can afford to retain and maintain the very best caliber of men and women adapted to the work.

Finally, I cannot refrain from again expressing my sincere appreciation of the splendid support and cordial cooperation of every member of the Service, including our clerical force, in rendering every possible assistance during the past emergency period.

I am especially indebted to President Woods and the officials of the States Relations Service for their cordial and earnest support and assistance in directing the work of the Extension Service.

January 1, 1919.

FINANCIAL REPORT.

THE MARYLAND AGRICULTURAL EXTENSION SERVICE

In Account with

THE UNITED STATES APPROPRIATION UNDER SMITH-LEVER EXTENSION ACT, 1917-1918.

Dr.

Smith-Lever Fund.

To receipts from the Treasurer of the United States, as per appropriations for fiscal year ended June 30, 1918, under Act of Congress approved May 8, 1914 (Smith-Lever Act)..... \$51,315.90

Cr.

By	Abstract.
Salaries	\$34,613.14
Labor	36.87
Printing and Distribution of Publications.....	2,503.00
Stationery and Small Printing.....	1,312.73
Postage Telegraph, Telephone, Freight and Express	456.28
Heat, Light, Water and Power.....	22.66
Supplies	420.10
Library	24.64
Tools, Machinery and Appliances.....	54.35
Furniture and Fixtures.....	1,469.40
Scientific Apparatus and Specimens.....	90.55
Traveling Expenses	10,038.83
Contingent Expenses	273.35

\$51,315.90

The above is a true copy from the books of the Treasurer.

M. F. McKENNY, Accountant.

ALLOTMENT OF FUNDS (EXCEPT THOSE FROM U. S. DEPT. OF AGRICULTURE) USED FOR EXTENSION WORK FOR FISCAL YEAR ENDING JUNE 30, 1918.

PROJECTS.	Total.	Smith-Lever.		State.	County.	Other.
		Federal.	State.			
Administration	\$16,222.40	\$10,132.97	\$5,549.43	\$540.00		
Printing and Distribution of Publications	2,503.00	2,503.00				
County Agents.....	35,919.11	9,842.00	176.22	22,690.89	\$3,010.00	\$200.00
Home Economics and Girls' Clubs..	14,410.14	7,767.13	1,031.48	1,500.00	2,827.53	1,284.00
Boys' Club Work...	3,270.90	194.10	3,076.80			
Agronomy	1,981.53		1,981.53			
Animal Industry...	1,737.14		1,737.14			
Horticulture	2,395.24		2,395.24			
Rural Organization and Marketing...	1,095.22		1,095.22			
Poultry Extension..	2,200.22		2,200.22			
Plant Diseases.....	148.19		148.19			
Farm Machinery...	321.07	218.75	102.32			
Dairying	1,464.16		1,164.16	300.00		
General Extension.	3,940.81			3,940.81		
State Horticultural Department	7,325.02			7,325.02		
Total Expenditures	\$94,934.15	\$30,657.95	\$20,657.95	\$36,296.72	\$5,837.53	\$1,484.00

SUMMARY STATEMENT OF EXPENDITURES BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS (EXCEPT THOSE FROM THE U. S. DEPT. OF AGRICULTURE)

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SUMMARY STATEMENT OF EXPENDITURES BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS (EXCEPT THOSE FROM THE U. S. DEPT. OF AGRICULTURE) USED FOR EXTENSION WORK—Fiscal Year Ending June 30, 1918.

ITEMS OF EXPENSE.	Total.	Administration.	Printing and Distribution.	County Agents.	Home Economics and Girls' Clubs.	Boys' Club Work.	Agronomy.	Animal Industry.	Horticulture.
Salaries	\$72,759.90	\$11,207.02	.....	\$31,459.97	\$6,655.90	\$1,640.00	\$1,455.00	\$1,283.31	\$2,100.00
Labor	584.72	36.87	.....	.....	.....	.....	.....	.....	.....
Printing and Distribution of Publications.....	2,503.00	.....	\$2,503.00	.....	.....	.....	.....	.....	.....
Stationery and Small Printing	1,786.27	1,312.73	.....	.....	.....	.....	.....	.....	.....
Postage, Telegraph, Telephone, Freight and Express	717.45	414.85	.....	1.81	23.65	4.06	.....	1.00	4.35
Heat, Light, Water and Power	151.26	22.66	.....	.....	.....	.....	.....	.....	.....
Supplies	460.09	266.50	.....	87.70	57.88	6.53	.....	.....	.....
Library	26.54	24.64	.....	.....	.....	.....	.....	.....	.....
Tools, Machinery and Appliances	134.78	54.35	.....	.....	.75	.....	.....	.....	.....
Furniture and Fixtures. Scientific Apparatus and Specimens	1,840.25	1,468.65	.....	.....	.....	.....	.....	.....	.....
Traveling Expenses.....	96.41	89.30	.....	.....	.....	1.25	.....	.....	.....
Contingent Expenses.....	12,744.83	511.48	.....	1,159.63	3,560.43	1,619.06	526.53	452.83	290.89
	1,128.65	273.35	.....	.....	.....	.....	.....	.....	.....
Total Expenditures...	\$94,934.15	\$15,682.40	\$2,503.00	\$32,709.11	\$10,298.61	\$3,270.90	\$1,981.53	\$1,737.14	\$2,395.24

SUMMARY STATEMENT OF EXPENDITURES BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS (EXCEPT THOSE FROM THE U. S. DEPT. OF AGRICULTURE) USED FOR EXTENSION WORK—Fiscal Year Ending June 30, 1918.—(Continued.)

ITEMS OF EXPENSE.	Dairying.	Rural Organizations.	Poultry Extension.	Plant Diseases.	Farm Machinery.	General Extension.	State Horticulture.	County Funds.	Other.
Salaries	\$420.00	\$832.83	\$1,500.00	.....	\$250.00	\$1,690.79	\$4,943.55	\$5,837.53	\$1,484.00
Labor .....	.....	.....	.....	.....	.....	427.12	120.73	.....	.....
Printing and Distribution of Publications .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stationery and Small Printing .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Postage, Telegraph, Telephone, Freight and Express .....	.....	.....	.....	.....	.....	367.18	106.36	.....	.....
Heat, Light, Water and Power	.50	.75	3.26	\$2.05	.....	121.63	139.54	.....	.....
Supplies .....	.....	.....	.....	.....	.....	22.27	106.33	.....	.....
Library .....	.....	.....	.....	.39	1.10	39.99	.....	.....	.....
Tools, Machinery and Appliances .....	.....	.....	.....	.....	.....	.....	1.90	.....	.....
Furniture and Fixtures. Scientific Apparatus and Specimens .....	.....	.....	.....	.....	.....	60.00	20.43	.....	.....
Traveling Expenses .....	.....	.....	.....	.....	.....	240.35	130.50	.....	.....
Contingent Expenses	743.66	261.64	696.96	145.75	.....	.....	5.86	.....	.....
Total Expenditures	\$1,164.16	\$1,095.22	\$2,200.22	\$148.19	\$321.07	\$4,480.81	\$7,625.02	\$5,837.53	\$1,484.00

COUNTY HOME DEMONSTRATION AGENTS.

Miss Annie L. Copper.....	Chestertown	Kent
Miss Catherine Cowsill.....	Rockville	Montgomery
Miss Ellen Davis.....	Upper Marlboro.....	Prince George
Miss Ella J. Day.....	Elkton	Cecil
Miss Rachel Everett.....	Westminster	Carroll
Miss Sue Frick.....	Hagerstown	Washington
Miss Frances E. Gerber.....	Oakland	Garrett
Miss Blanche Gittinger.....	Bel Air	Harford
Mrs. Esther N. Hauver.....	Frederick	Frederick
Mrs. Nell C. Lawson.....	Ellicott City.....	Howard
Mrs. Georgiana Linthicum.....	Annapolis	Anne Arundel
Miss Emma Lowe.....	Prince Frederick.....	Calvert
Miss Louise Mills.....	Princess Anne.....	Somerset
Miss Olive Mitchell.....	Salisbury	Wicomico
Mrs. Edith G. Norman.....	Denton	Caroline
Miss Helen Walker.....	Cambridge	Dorchester
Mrs. Olive K. Walls.....	Easton	Talbot
Miss Lucy J. Walter.....	Snow Hill.....	Worcester

URBAN WORKERS.

Miss Alice C. Walton.....	200 W. Saratoga St.....	Baltimore City
Miss Gladys J. Ward.....	200 W. Saratoga St.....	Baltimore City
Miss Gwynneth Gminder.....	607 Lennox St.....	Baltimore City

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Miss Marie Montgomery (Col.)...	1421 Druid Hill Ave....	Baltimore City

ONLY THE BULLETINS AND CIRCULARS NAMED BELOW ARE
AVAILABLE FOR DISTRIBUTION.

These will be sent free of charge to any address upon application.

AVAILABLE EXTENSION BULLETINS.

No.	1.	Sept., 1916—Maryland Apple Grading and Packing Law.
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"	12.	May, 1918—Rural School Lunch.
"	13.	Apr., 1918—Why We Can.
"	14.	Nov., 1918—The Seventeen-Year Locust.
"	15.	Dec., 1918—Milk Cost Survey Report.
"	16.	Feb., 1919—Home Garden Record Book.

AVAILABLE EXTENSION CIRCULARS.

No.	No.
1. Onions.	19. Hog Pastures.
2. Irish Potatoes.	22. Thoughts for Cattle Breeders
4. Strawberries.	24. Alfalfa in Maryland.
7. External Parasites of Swine.	25. Lime in Maryland.
8. Planning and Serving Meals.	26. Garden Seeds.
9. War Breads: { Corn Meal Yeast,	27. Farm Animals in War Times
	28. Garden Fertilizers.
	31. Meat Substitutes.
10. The Corn or Tobacco Root Web	32. Cottage Cheese.
Worm.	33. Pickles.
11. Flea Beetles.	34. Salads.
12. Honey Production.	35. Homemade Soap.
13. The Melon Aphis.	36. A Homemade Silo.
14. Poison Sprays or Dust.	37. Canning Corn.
	40. Incubation.
15. { Oat Meal Bread,	41. Brooding and Feeding Young Chicks.
	42. Barley Muffins.
	44. Mites.
	45. Preserve Eggs for Winter Use.
16. Feeding for Eggs in Winter.	46. Raise More Wheat.

SUMMARY STATEMENT OF EXPENDITURES BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS (EXCEPT THOSE FROM THE U. S. DEPT. OF AGRICULTURE) USED FOR EXTENSION WORK—Fiscal Year Ending June 30, 1918. —(Continued.)

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Traveling Expenses						240.35	130.50		
Contingent Expenses	743.66	261.64	696.96	145.75			5.86		
					69.97	752.15	1,953.85		
						759.33	95.97		
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	{ Oat Meal,	28.	Garden Fertilizers.
	{ Potato Yeast.	31.	Meat Substitutes.
10.	The Corn or Tobacco Root Web Worm.	32.	Cottage Cheese.
11.	Flax Beetles.	33.	Pickles.
12.	Honey Production.	34.	Salads.
13.	The Melon Aphid.	35.	Homemade Soap.
14.	Poison Sprays or Dust.	36.	A Homemade Silo.
	{ Oat Meal Bread,	37.	Canning Corn.
	{ Corn Cake,	40.	Incubation.
15.	{ Boston Brown Bread.	41.	Brooding and Feeding Young Chicks.
	{ Steamed Date Pudding,	42.	Barley Muffins.
	{ Lemon Sauce.	44.	Mites.
16.	Feeding for Eggs in Winter.	45.	Preserve Eggs for Winter Use.
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